<u>Dashboard</u> / My courses / <u>PROBABILITY AND ENGINEERING STATISTICS-Lecture-1201 - meta</u> / <u>Chapter Two</u> / <u>Short exam-chapter 2-makeup December 12</u>

Started on Saturday, 12 December 2020, 2:15 PM State Finished Completed on Saturday, 12 December 2020, 3:10 PM Time taken 54 mins 58 secs Grade 25.00 out of 30.00 (83%) Question 1 Let $f_X(x)$ be the probability density function of the random variable X. Correct $f(x) = egin{cases} rac{2}{49} x & 0 \leq x \leq 7; \ 0, & ext{otherwise.} \end{cases}$ Mark 5.00 out of 5.00 Determine the mean of X. 4.666 [The answer should be a number rounded to five decimal places, don't use symbols such as %] ~ One possible correct answer is: 4.66666666666667 Your answer is correct. Question 2 The lifetime X of a certain electronic component is an exponential random variable with a mean of 5 hours. Assuming 3 Partially correct of these components operate independently in a device. The device operates if all components operate. Mark 2.50 out of 5.00 Find the probability that the lifetime of any electronic component is at least 5 hours. 0.367 [The answer should be a number rounded to five decimal places, don't use symbols such as %] ~ One possible correct answer is: 0.36787944117144 Find the probability that the device operates for at least 5 hours. 0.632 [The answer should be a number rounded to five decimal places, don't use symbols such as %] × One possible correct answer is: 0.049787068367864 Your answer is partially correct. You have correctly answered 1 part(s) of this question.



Correct Mark 5.00 out of 5.00 Let X be a random variable that follows the normal distribution with $\mu_X = 4.8$ and $\sigma_X^2 = 1$. A new random variable Y is defined by the transformation Y=|X-1|, where $|\eta|$ is the absolute value of η .

Probabilities for the standard normal distribution



Table entry for z is the probability lying to the left of z

~	00	01	02	02	04	05	06	07	00	
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	.00	.01	.02	.05	.04	.03	.00	.07	.00	.09
0.0	0.5000	0.5040	0.5080	0.5120	0.5160	0.5199	0.5239	0.5279	0.5519	0.5559
0.1	0.5398	0.5458	0.5478	0.5517	0.5557	0.5590	0.5050	0.5075	0.5714	0.5755
0.2	0.5795	0.5852	0.5871	0.5910	0.5948	0.5987	0.0020	0.6004	0.6105	0.0141
0.5	0.6554	0.6501	0.0233	0.0293	0.0331	0.0308	0.0400	0.6808	0.0480	0.6970
0.4	0.0004	0.0391	0.0028	0.0004	0.0700	0.0730	0.0772	0.0808	0.0844	0.0879
0.5	0.0915	0.0950	0.0985	0.7019	0.7034	0.7000	0.7123	0.7137	0.7190	0.7224
0.0	0.7237	0.7291	0.7524	0.7673	0.7303	0.7422	0.7764	0.7400	0.7823	0.7349
0.7	0.7580	0.7011	0.7042	0.7075	0.7704	0.8023	0.8051	0.8078	0.7825	0.7852
0.0	0.7881	0.7910	0.7939	0.7907	0.7995	0.8023	0.8031	0.8078	0.8100	0.8133
1.0	0.8133	0.8130	0.8212	0.8238	0.8204	0.8289	0.8513	0.8577	0.8500	0.8509
1.0	0.8643	0.8465	0.8486	0.8708	0.8508	0.8551	0.8554	0.8577	0.85333	0.8021
1.1	0.8045	0.8869	0.8888	0.8708	0.8729	0.8944	0.8962	0.8790	0.8810	0.0030
13	0.0042	0.0009	0.0000	0.0207	0.0725	0.0244	0.0702	0.0200	0.0777	0.9013
1.5	0.9192	0.9207	0.9222	0.9236	0.9251	0.9265	0.9279	0.9292	0.9306	0.9319
1.5	0.9332	0.9345	0.9357	0.9270	0.9382	0.9394	0.9406	0.9418	0.9429	0.9441
1.6	0.9452	0.9463	0.9474	0.9484	0.9495	0.9505	0.9515	0.9525	0.9535	0.9545
1.7	0.9554	0.9564	0.9573	0.9582	0.9591	0.9599	0.9608	0.9616	0.9625	0.9633
1.8	0.9641	0.9649	0.9656	0.9664	0.9671	0.9678	0.9686	0.9693	0.9699	0.9706
1.9	0.9713	0.9719	0.9726	0.9732	0.9738	0.9744	0.9750	0.9756	0.9761	0.9767
2.0	0.9772	0.9778	0.9783	0.9788	0.9793	0.9798	0.9803	0.9808	0.9812	0.9817
2.1	0.9821	0.9826	0.9830	0.9834	0.9838	0.9842	0.9846	0.9850	0.9854	0.9857
2.2	0.9861	0.9864	0.9868	0.9871	0.9875	0.9878	0.9881	0.9884	0.9887	0.9890
2.3	0.9893	0.9896	0.9898	0.9901	0.9904	0.9906	0.9909	0.9911	0.9913	0.9916
2.4	0.9918	0.9920	0.9922	0.9925	0.9927	0.9929	0.9931	0.9932	0.9934	0.9936
2.5	0.9938	0.9940	0.9941	0.9943	0.9945	0.9946	0.9948	0.9949	0.9951	0.9952
2.6	0.9953	0.9955	0.9956	0.9957	0.9959	0.9960	0.9961	0.9962	0.9963	0.9964
2.7	0.9965	0.9966	0.9967	0.9968	0.9969	0.9970	0.9971	0.9972	0.9973	0.9974
2.8	0.9974	0.9975	0.9976	0.9977	0.9977	0.9978	0.9979	0.9979	0.9980	0.9981
2.9	0.9981	0.9982	0.9982	0.9983	0.9984	0.9984	0.9985	0.9985	0.9986	0.9986
3.0	0.9987	0.9987	0.9987	0.9988	0.9988	0.9989	0.9989	0.9989	0.9990	0.9990
3.1	0.9990	0.9991	0.9991	0.9991	0.9992	0.9992	0.9992	0.9992	0.9993	0.9993
3.2	0.9993	0.9993	0.9994	0.9994	0.9994	0.9994	0.9994	0.9995	0.9995	0.9995
3.3	0.9995	0.9995	0.9995	0.9996	0.9996	0.9996	0.9996	0.9996	0.9996	0.9997
3.4	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9998

Compute  $P(Y \le 1.2)$ . If the required probability does not appear in the table below. Use the closest probability value. 0.0045 [The answer should be a number rounded to five decimal places, don't use symbols such as %]

One possible correct answer is: 0.0046493759847422

Your answer is correct.

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Correct Mark 5.00 out of 5.00

# Let X be a random variable that follows the normal distribution with $\mu_X=-1.8$ and $\sigma_X^2=1.$

## Probabilities for the standard normal distribution



z

Table entry for z is the probability lying to the left of z

z         .00         .01         .02         .03         .04         .05         .06         .07         .08         .09           0.0         0.5000         0.5040         0.5080         0.5120         0.5190         0.5239         0.5239         0.5319         0.5355           0.1         0.5398         0.5438         0.5478         0.5517         0.5596         0.5636         0.5664         0.6103         0.6141           0.3         0.6179         0.6217         0.6225         0.6231         0.6388         0.6406         0.6408         0.6480         0.6517           0.4501         0.6591         0.6695         0.7019         0.7054         0.7088         0.7123         0.7157         0.7190         0.7224           0.6         0.7257         0.7291         0.7324         0.737         0.7389         0.7422         0.7454         0.7486         0.7177         0.7852           0.781         0.7910         0.7939         0.7977         0.7995         0.8023         0.8051         0.8166         0.8133           0.9         0.8159         0.8186         0.8279         0.8244         0.8289         0.8340         0.8365         0.8343           0.8											
0.0         0.5040         0.5080         0.5120         0.5169         0.5239         0.5279         0.5319         0.5359           0.1         0.5398         0.5438         0.5478         0.5517         0.5557         0.5566         0.5675         0.5714         0.5753           0.2         0.5733         0.5832         0.5871         0.5598         0.6626         0.6664         0.6772         0.6808         0.6443         0.6480         0.6517           0.4         0.6554         0.6591         0.6628         0.6664         0.6700         0.6736         0.6772         0.6808         0.6814         0.6877           0.5580         0.6915         0.6950         0.7995         0.7389         0.7424         0.7748         0.7764         0.7794         0.7764         0.7764         0.7794         0.7764         0.7764         0.7764         0.7764         0.7764         0.7764         0.7764         0.7764         0.7764         0.7764         0.7764         0.7764         0.7764         0.7764         0.7764         0.7764         0.7764         0.7764         0.7852         0.8310         0.8333           0.8186         0.8212         0.8323         0.8225         0.841         0.8470         <	z	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
0.1         0.5398         0.5438         0.5478         0.5517         0.5557         0.5596         0.5636         0.5575         0.5714         0.5753           0.2         0.5793         0.5832         0.5871         0.5910         0.5948         0.5987         0.6026         0.6064         0.6103         0.6113           0.4         0.6554         0.6551         0.6628         0.6664         0.6700         0.6736         0.6472         0.6808         0.6844         0.6879           0.5         0.6915         0.6950         0.6985         0.7019         0.7054         0.7708         0.7123         0.7157         0.7190         0.7224           0.6         0.7257         0.7211         0.7324         0.7357         0.7389         0.7422         0.7454         0.7486         0.7517         0.7549           0.7580         0.7111         0.7642         0.7677         0.7795         0.8233         0.8051         0.8078         0.8179         0.8106         0.8133           0.8159         0.8166         0.8210         0.8290         0.8115         0.8106         0.8333           0.8413         0.8463         0.8486         0.8708         0.8729         0.8749         0.8777 <td>0.0</td> <td>0.5000</td> <td>0.5040</td> <td>0.5080</td> <td>0.5120</td> <td>0.5160</td> <td>0.5199</td> <td>0.5239</td> <td>0.5279</td> <td>0.5319</td> <td>0.5359</td>	0.0	0.5000	0.5040	0.5080	0.5120	0.5160	0.5199	0.5239	0.5279	0.5319	0.5359
0.2         0.5793         0.5832         0.5871         0.5914         0.5948         0.5047         0.6026         0.6044         0.6103         0.6141           0.3         0.6179         0.6217         0.6225         0.6293         0.6331         0.6368         0.6406         0.6443         0.6480         0.6517           0.4         0.6551         0.6591         0.6628         0.6670         0.7074         0.7722         0.7157         0.7190         0.7224           0.6         0.7257         0.7291         0.7324         0.7357         0.7389         0.7422         0.7454         0.7714         0.7784         0.7784         0.7786         0.7517         0.7590         0.7812         0.7814         0.7791         0.7823         0.8051         0.8078         0.8169         0.8135         0.8340         0.8435         0.8238         0.8051         0.8370         0.8351         0.8574         0.8770         0.8999         0.9151           1.0         0.8413         0.8465         0.8868         0.8708         0.8729         0.8770         0.8790         0.8810         0.8830           1.2         0.8449         0.8860         0.8886         0.8707         0.9225         0.9241         0.	0.1	0.5398	0.5438	0.5478	0.5517	0.5557	0.5596	0.5636	0.5675	0.5714	0.5753
0.3         0.6179         0.6217         0.6255         0.6293         0.6331         0.6368         0.6406         0.6443         0.6480         0.6517           0.4         0.6554         0.6591         0.6628         0.6664         0.6700         0.6736         0.6772         0.6808         0.6844         0.6879           0.5         0.6955         0.6955         0.7019         0.7724         0.7423         0.7157         0.7190         0.7224           0.6         0.7257         0.7291         0.7324         0.7373         0.7742         0.7424         0.7484         0.7484         0.7815         0.7549           0.7580         0.7611         0.7642         0.7673         0.7795         0.8023         0.8051         0.8078         0.8166         0.8133           0.8159         0.8186         0.8212         0.8238         0.8205         0.8244         0.8554         0.8577         0.8599         0.8621           1.1         0.8443         0.8665         0.8686         0.8709         0.8115         0.8180         0.8810         0.8810         0.8810         0.8810         0.8810         0.8810         0.8810         0.8810         0.8810         0.8810         0.8810         0.88	0.2	0.5793	0.5832	0.5871	0.5910	0.5948	0.5987	0.6026	0.6064	0.6103	0.6141
0.4         0.6554         0.6628         0.6664         0.6700         0.6772         0.6808         0.6844         0.6879           0.5         0.6915         0.6950         0.6985         0.7019         0.7024         0.7088         0.7123         0.7157         0.7190         0.7224           0.6         0.7257         0.7291         0.7324         0.7357         0.7738         0.7742         0.7744         0.7744         0.7823         0.7852           0.7         0.7580         0.7611         0.7422         0.7734         0.77744         0.7744         0.7823         0.7852           0.8         0.7811         0.7939         0.7967         0.7995         0.8023         0.8051         0.8078         0.8106         0.8133           0.9         0.8159         0.8186         0.8212         0.8238         0.8531         0.8571         0.8305         0.8315           1.1         0.8465         0.8866         0.8708         0.8719         0.8770         0.8797         0.8810         0.8830           1.2         0.8499         0.8869         0.8888         0.8970         0.8912         0.9151         0.9151         0.9162         0.9177           1.4         0	0.3	0.6179	0.6217	0.6255	0.6293	0.6331	0.6368	0.6406	0.6443	0.6480	0.6517
0.5         0.6915         0.6950         0.6985         0.7019         0.7054         0.7088         0.7123         0.7157         0.7190         0.7224           0.6         0.7257         0.7291         0.7324         0.7357         0.7389         0.7422         0.7454         0.7464         0.7764         0.7517         0.7549           0.7         0.7580         0.7611         0.7642         0.7673         0.7704         0.7734         0.7764         0.7764         0.7764         0.7764         0.7823         0.7823         0.7852           0.8         0.7810         0.7910         0.7939         0.7967         0.7995         0.8023         0.8051         0.8340         0.8355         0.8381         0.8413         0.8465         0.8888         0.8279         0.8270         0.8270         0.8290         0.8611         0.8430         0.8461         0.8888         0.8907         0.8255         0.8944         0.8902         0.9915         0.8770         0.8890         0.8907         0.9115         0.9131         0.9147         0.9162         0.9177           1.4         0.9122         0.9206         0.9212         0.9226         0.9236         0.9292         0.9306         0.9311         0.9147	0.4	0.6554	0.6591	0.6628	0.6664	0.6700	0.6736	0.6772	0.6808	0.6844	0.6879
0.6         0.7257         0.7321         0.7327         0.7389         0.7422         0.7454         0.7486         0.7517         0.7549           0.7         0.7580         0.7611         0.7642         0.7673         0.7704         0.7734         0.7744         0.7744         0.7784         0.77823         0.7823           0.8         0.7881         0.7910         0.7939         0.7967         0.7995         0.8203         0.8051         0.8078         0.8166         0.8186         0.8121         0.8238         0.8264         0.8289         0.8315         0.8340         0.8365         0.8386           1.0         0.8443         0.8465         0.8686         0.8708         0.8749         0.8770         0.8790         0.8810         0.8830           1.2         0.8849         0.8869         0.8888         0.8907         0.8925         0.8944         0.8922         0.8900         0.9115         0.9131         0.9147         0.9162         0.9177           1.4         0.9192         0.9207         0.9222         0.9236         0.9279         0.9292         0.9306         0.9311           1.5         0.9332         0.9343         0.9484         0.9495         0.9515         0.9525 <td>0.5</td> <td>0.6915</td> <td>0.6950</td> <td>0.6985</td> <td>0.7019</td> <td>0.7054</td> <td>0.7088</td> <td>0.7123</td> <td>0.7157</td> <td>0.7190</td> <td>0.7224</td>	0.5	0.6915	0.6950	0.6985	0.7019	0.7054	0.7088	0.7123	0.7157	0.7190	0.7224
0.7         0.7580         0.7611         0.7642         0.7774         0.7744         0.7764         0.7794         0.7794         0.7823         0.7852           0.8         0.7881         0.7910         0.7993         0.7967         0.7995         0.8023         0.8051         0.8078         0.8176         0.8133           0.9         0.8159         0.8186         0.8212         0.8238         0.8244         0.8289         0.8315         0.8340         0.8365         0.8389           1.0         0.8413         0.8465         0.8686         0.8708         0.8729         0.8749         0.8770         0.8790         0.8800         0.8997         0.9015           1.2         0.8849         0.8869         0.8888         0.8907         0.8225         0.8944         0.8620         0.8890         0.8997         0.9115           1.3         0.9032         0.9049         0.9066         0.9022         0.9226         0.9240         0.9117         0.9141         0.9162         0.9171           1.4         0.9192         0.9207         0.9222         0.9236         0.9251         0.9525         0.9535         0.9555           1.5         0.9332         0.9473         0.9582	0.6	0.7257	0.7291	0.7324	0.7357	0.7389	0.7422	0.7454	0.7486	0.7517	0.7549
0.8         0.7881         0.7910         0.7939         0.7967         0.7995         0.8023         0.8051         0.8078         0.8166         0.8133           0.9         0.8159         0.8186         0.8212         0.8238         0.8264         0.8289         0.8315         0.8340         0.8365         0.8389           1.0         0.84413         0.8465         0.8666         0.8708         0.8729         0.8749         0.8770         0.8790         0.8810         0.8830           1.2         0.8449         0.8869         0.8888         0.8907         0.8925         0.8944         0.8962         0.8980         0.8997         0.9015           1.3         0.9032         0.9049         0.9066         0.9022         0.9226         0.9226         0.9207         0.9122         0.9226         0.9226         0.9226         0.9216         0.9177           1.4         0.9152         0.9207         0.9222         0.9226         0.9206         0.9117         0.9148         0.9429         0.9411           1.4         0.9152         0.9257         0.9252         0.9515         0.9525         0.9535         0.9545         0.9545           1.4         0.9463         0.9564	0.7	0.7580	0.7611	0.7642	0.7673	0.7704	0.7734	0.7764	0.7794	0.7823	0.7852
0.9         0.8159         0.8186         0.8212         0.8238         0.8264         0.8289         0.8315         0.8340         0.8365         0.8389           1.0         0.8413         0.8438         0.8461         0.8485         0.8508         0.8531         0.8554         0.8577         0.8599         0.8621           1.1         0.8643         0.8665         0.8686         0.8708         0.8729         0.8749         0.8770         0.8790         0.8810         0.8830           1.2         0.8849         0.8669         0.8888         0.8907         0.8925         0.8944         0.8962         0.8980         0.8997         0.9015           1.3         0.9032         0.9049         0.9066         0.9022         0.9226         0.9229         0.9306         0.9177           1.4         0.9122         0.9221         0.9226         0.9240         0.9441         0.9429         0.9414           1.5         0.9332         0.9345         0.9357         0.9370         0.9382         0.9250         0.9515         0.9525         0.9535         0.9554           1.5         0.9544         0.9543         0.9542         0.9564         0.9573         0.9573         0.9576	0.8	0.7881	0.7910	0.7939	0.7967	0.7995	0.8023	0.8051	0.8078	0.8106	0.8133
1.0         0.8413         0.8438         0.8461         0.8485         0.8508         0.8531         0.8554         0.8577         0.8599         0.8621           1.1         0.8643         0.8665         0.8686         0.8708         0.8729         0.8749         0.8770         0.8790         0.8810         0.8830           1.2         0.8849         0.8869         0.8888         0.8907         0.8925         0.8944         0.8962         0.8980         0.8977         0.9015           1.3         0.9032         0.9049         0.9066         0.9082         0.9099         0.9115         0.9131         0.9147         0.9162         0.9177           1.4         0.9192         0.9207         0.9222         0.9236         0.9251         0.9255         0.9252         0.9306         0.9411           1.6         0.9452         0.9453         0.9542         0.9344         0.9495         0.9550         0.9515         0.9525         0.9535         0.9545           1.7         0.9544         0.9564         0.9573         0.9572         0.9738         0.9678         0.9686         0.9661         0.9625         0.9633           1.8         0.9641         0.9643         0.9573	0.9	0.8159	0.8186	0.8212	0.8238	0.8264	0.8289	0.8315	0.8340	0.8365	0.8389
1.1         0.8643         0.8665         0.8686         0.8708         0.8729         0.8749         0.8770         0.8790         0.8810         0.8830           1.2         0.8849         0.8869         0.8888         0.8907         0.8925         0.8944         0.8962         0.8980         0.8997         0.9015           1.3         0.9032         0.9049         0.9066         0.9082         0.9099         0.9115         0.9131         0.9147         0.9162         0.9177           1.4         0.9192         0.9207         0.9222         0.9236         0.9251         0.9265         0.9279         0.9292         0.9306         0.9319           1.5         0.9332         0.9345         0.9357         0.9370         0.9382         0.9305         0.9515         0.9525         0.9535         0.9545           1.7         0.9554         0.9564         0.9573         0.9582         0.9599         0.9608         0.9616         0.9625         0.9633           1.8         0.9641         0.9656         0.9644         0.9673         0.9738         0.9744         0.9750         0.9766         0.9767           2.0         0.9772         0.9778         0.9783         0.9783	1.0	0.8413	0.8438	0.8461	0.8485	0.8508	0.8531	0.8554	0.8577	0.8599	0.8621
1.2         0.8849         0.8869         0.8888         0.8907         0.8925         0.8944         0.8962         0.8980         0.8997         0.9015           1.3         0.9032         0.9049         0.9066         0.9082         0.9099         0.9115         0.9131         0.9147         0.9162         0.9177           1.4         0.9192         0.9207         0.9222         0.9236         0.9251         0.9265         0.9279         0.9292         0.9306         0.9319           1.5         0.9332         0.9345         0.9357         0.9370         0.9382         0.9394         0.9406         0.9418         0.9429         0.9441           1.6         0.9452         0.9463         0.9474         0.9484         0.9495         0.9505         0.9515         0.9525         0.9535         0.9545           1.7         0.9554         0.9564         0.9573         0.9582         0.9519         0.9608         0.9616         0.9625         0.9633           1.9         0.9713         0.9719         0.9726         0.9732         0.9738         0.9744         0.9750         0.9756         0.9761         0.9767           2.0         0.9772         0.9778         0.9783	1.1	0.8643	0.8665	0.8686	0.8708	0.8729	0.8749	0.8770	0.8790	0.8810	0.8830
1.3         0.9032         0.9049         0.9066         0.9082         0.9099         0.9115         0.9131         0.9147         0.9162         0.9177           1.4         0.9192         0.9207         0.9222         0.9236         0.9251         0.9265         0.9279         0.9292         0.9306         0.9319           1.5         0.9332         0.9345         0.9357         0.9370         0.9382         0.9344         0.9406         0.9418         0.9429         0.9441           1.6         0.9452         0.9463         0.9474         0.9484         0.9495         0.9505         0.9515         0.9525         0.9535         0.9545           1.7         0.9554         0.9644         0.9573         0.9582         0.9511         0.9668         0.9661         0.9625         0.9633           1.8         0.9641         0.9649         0.9656         0.9664         0.9671         0.9678         0.9868         0.9691         0.9706           1.9         0.9772         0.9778         0.9783         0.9788         0.9803         0.9808         0.9812         0.9817           2.1         0.9826         0.9830         0.9834         0.9838         0.9844         0.9857	1.2	0.8849	0.8869	0.8888	0.8907	0.8925	0.8944	0.8962	0.8980	0.8997	0.9015
1.4         0.9192         0.9207         0.9222         0.9236         0.9251         0.9265         0.9279         0.9292         0.9306         0.9319           1.5         0.9332         0.9345         0.9357         0.9370         0.9382         0.9344         0.9406         0.9418         0.9429         0.9441           1.6         0.9452         0.9463         0.9474         0.9484         0.9495         0.9505         0.9515         0.9525         0.9535         0.9545           1.7         0.9554         0.9564         0.9573         0.9582         0.9511         0.9608         0.9616         0.9625         0.9633           1.8         0.9641         0.9649         0.9656         0.9664         0.9671         0.9678         0.9686         0.9693         0.9699         0.9706           1.9         0.9772         0.9778         0.9783         0.9783         0.9788         0.9803         0.9808         0.9817         0.9788         0.9803         0.9808         0.9817         0.9772         0.9774         0.9784         0.9813         0.9844         0.9857         0.9873           2.1         0.9821         0.9846         0.9864         0.9871         0.9875         0.9876 <td>1.3</td> <td>0.9032</td> <td>0.9049</td> <td>0.9066</td> <td>0.9082</td> <td>0.9099</td> <td>0.9115</td> <td>0.9131</td> <td>0.9147</td> <td>0.9162</td> <td>0.9177</td>	1.3	0.9032	0.9049	0.9066	0.9082	0.9099	0.9115	0.9131	0.9147	0.9162	0.9177
1.5 $0.9332$ $0.9345$ $0.9357$ $0.9370$ $0.9382$ $0.9394$ $0.9406$ $0.9418$ $0.9429$ $0.9441$ 1.6 $0.9452$ $0.9463$ $0.9474$ $0.9484$ $0.9495$ $0.9505$ $0.9515$ $0.9525$ $0.9535$ $0.9545$ 1.7 $0.9554$ $0.9564$ $0.9573$ $0.9582$ $0.9591$ $0.9599$ $0.9608$ $0.9616$ $0.9625$ $0.9633$ 1.8 $0.9641$ $0.9649$ $0.9656$ $0.9664$ $0.9671$ $0.9678$ $0.9686$ $0.9693$ $0.9699$ $0.9706$ 1.9 $0.9713$ $0.9719$ $0.9726$ $0.9732$ $0.9738$ $0.9744$ $0.9750$ $0.9756$ $0.9761$ $0.9767$ 2.0 $0.9772$ $0.9778$ $0.9783$ $0.9788$ $0.9793$ $0.9798$ $0.9803$ $0.9808$ $0.9812$ $0.9817$ 2.1 $0.9821$ $0.9826$ $0.9830$ $0.9834$ $0.9838$ $0.9842$ $0.9846$ $0.9850$ $0.9857$ $0.9857$ 2.2 $0.9861$ $0.9864$ $0.9868$ $0.9871$ $0.9875$ $0.9878$ $0.9881$ $0.9884$ $0.9877$ $0.9975$ 2.3 $0.9893$ $0.9940$ $0.9941$ $0.9945$ $0.9946$ $0.9948$ $0.9942$ $0.9918$ $0.9951$ $0.9952$ 2.4 $0.9918$ $0.9946$ $0.9977$ $0.9977$ $0.9977$ $0.9977$ $0.9972$ $0.9973$ $0.9974$ 2.5 $0.9938$ $0.9946$ $0.9946$ $0.9977$ $0.9977$ $0.9977$ $0.9977$ $0.99$	1.4	0.9192	0.9207	0.9222	0.9236	0.9251	0.9265	0.9279	0.9292	0.9306	0.9319
1.6         0.9452         0.9463         0.9474         0.9484         0.9495         0.9505         0.9515         0.9525         0.9535         0.9545           1.7         0.9554         0.9564         0.9573         0.9582         0.9591         0.9599         0.9608         0.9616         0.9625         0.9633           1.8         0.9641         0.9649         0.9656         0.9664         0.9671         0.9678         0.9686         0.9693         0.9699         0.9706           1.9         0.9713         0.9719         0.9726         0.9732         0.9738         0.9744         0.9750         0.9756         0.9761         0.9767           2.0         0.9772         0.9778         0.9783         0.9783         0.9788         0.9788         0.9803         0.9808         0.9817           2.1         0.9821         0.9826         0.9830         0.9834         0.9838         0.9813         0.9884         0.9857         0.9857           2.2         0.9861         0.9864         0.9888         0.9917         0.9913         0.9913         0.9913         0.9913         0.9913         0.9913         0.9913         0.9913         0.9913         0.9913         0.9913         0.9913 <td>1.5</td> <td>0.9332</td> <td>0.9345</td> <td>0.9357</td> <td>0.9370</td> <td>0.9382</td> <td>0.9394</td> <td>0.9406</td> <td>0.9418</td> <td>0.9429</td> <td>0.9441</td>	1.5	0.9332	0.9345	0.9357	0.9370	0.9382	0.9394	0.9406	0.9418	0.9429	0.9441
1.7 $0.9554$ $0.9564$ $0.9573$ $0.9582$ $0.9591$ $0.9599$ $0.9608$ $0.9616$ $0.9625$ $0.9633$ $1.8$ $0.9641$ $0.9649$ $0.9656$ $0.9664$ $0.9671$ $0.9678$ $0.9686$ $0.9693$ $0.9699$ $0.9706$ $1.9$ $0.9713$ $0.9719$ $0.9726$ $0.9732$ $0.9738$ $0.9744$ $0.9750$ $0.9756$ $0.9761$ $0.9767$ $2.0$ $0.9772$ $0.9778$ $0.9783$ $0.9788$ $0.9793$ $0.9798$ $0.9803$ $0.9808$ $0.9812$ $0.9817$ $2.1$ $0.9821$ $0.9826$ $0.9830$ $0.9834$ $0.9813$ $0.9846$ $0.9850$ $0.9854$ $0.9857$ $2.2$ $0.9861$ $0.9864$ $0.9868$ $0.9871$ $0.9757$ $0.9758$ $0.9881$ $0.9884$ $0.9877$ $0.9873$ $2.3$ $0.9893$ $0.9896$ $0.9898$ $0.9901$ $0.9914$ $0.9911$ $0.9913$ $0.9913$ $0.9913$ $0.9913$ $0.9913$ $0.9913$ $0.9913$ $0.9921$ $0.9912$ $2.4$ $0.9918$ $0.9940$ $0.9914$ $0.9943$ $0.9945$ $0.9946$ $0.9942$ $0.9913$ $0.9922$ $0.9923$ $0.9914$ $0.9913$ $0.9922$ $0.9923$ $0.9913$ $0.9923$ $0.9914$ $0.9913$ $0.9922$ $0.9923$ $0.9923$ $0.9923$ $0.9924$ $0.9914$ $0.9914$ $0.9914$ $0.9914$ $0.9914$ $0.9914$ $0.9914$ $0.9914$ $0.9914$ $0.9917$ $0.9977$ $0.9977$	1.6	0.9452	0.9463	0.9474	0.9484	0.9495	0.9505	0.9515	0.9525	0.9535	0.9545
1.8         0.9641         0.9649         0.9656         0.9664         0.9671         0.9678         0.9686         0.9693         0.9699         0.9706           1.9         0.9713         0.9719         0.9726         0.9732         0.9738         0.9744         0.9750         0.9756         0.9761         0.9767           2.0         0.9772         0.9778         0.9783         0.9788         0.9793         0.9798         0.9803         0.9808         0.9812         0.9817           2.1         0.9821         0.9826         0.9830         0.9834         0.9838         0.9842         0.9846         0.9850         0.9854         0.9857           2.2         0.9861         0.9864         0.9868         0.9871         0.9875         0.9878         0.9909         0.9911         0.9913         0.9913         0.9913         0.9913         0.9913         0.9913         0.9913         0.9925         0.9925           2.6         0.9938         0.9940         0.9941         0.9943         0.9945         0.9946         0.9948         0.9942         0.9951         0.9952           2.6         0.9953         0.9956         0.9957         0.9957         0.9977         0.9971         0.9972 <td>1.7</td> <td>0.9554</td> <td>0.9564</td> <td>0.9573</td> <td>0.9582</td> <td>0.9591</td> <td>0.9599</td> <td>0.9608</td> <td>0.9616</td> <td>0.9625</td> <td>0.9633</td>	1.7	0.9554	0.9564	0.9573	0.9582	0.9591	0.9599	0.9608	0.9616	0.9625	0.9633
1.9 $0.9713$ $0.9719$ $0.9726$ $0.9732$ $0.9738$ $0.9744$ $0.9750$ $0.9756$ $0.9761$ $0.9767$ $2.0$ $0.9772$ $0.9778$ $0.9783$ $0.9788$ $0.9793$ $0.9798$ $0.9803$ $0.9808$ $0.9812$ $0.9817$ $2.1$ $0.9821$ $0.9826$ $0.9830$ $0.9834$ $0.9838$ $0.9842$ $0.9863$ $0.9808$ $0.9854$ $0.9857$ $2.2$ $0.9861$ $0.9864$ $0.9868$ $0.9871$ $0.9875$ $0.9878$ $0.9846$ $0.9850$ $0.9854$ $0.9857$ $2.3$ $0.9893$ $0.9866$ $0.9878$ $0.9911$ $0.9913$ $0.9911$ $0.9913$ $0.9913$ $0.9913$ $0.9913$ $0.9913$ $0.9913$ $0.9923$ $0.9936$ $2.4$ $0.9918$ $0.9940$ $0.9914$ $0.9941$ $0.9945$ $0.9926$ $0.9948$ $0.9949$ $0.9951$ $0.9952$ $2.6$ $0.9953$ $0.9955$ $0.9956$ $0.9957$ $0.9950$ $0.9961$ $0.9962$ $0.9963$ $0.9974$ $2.7$ $0.9966$ $0.9966$ $0.9967$ $0.9977$ $0.9977$ $0.9977$ $0.9972$ $0.9973$ $0.9974$ $2.8$ $0.9974$ $0.9975$ $0.9967$ $0.9977$ $0.9977$ $0.9977$ $0.9978$ $0.9979$ $0.9979$ $0.9980$ $2.9$ $0.9981$ $0.9987$ $0.9987$ $0.9988$ $0.9984$ $0.9985$ $0.9986$ $0.9993$ $0.9994$ $0.9994$ $2.9$ $0.9993$ $0.9994$ $0.9994$	1.8	0.9641	0.9649	0.9656	0.9664	0.9671	0.9678	0.9686	0.9693	0.9699	0.9706
2.0         0.9772         0.9778         0.9783         0.9788         0.9793         0.9798         0.9803         0.9808         0.9812         0.9817           2.1         0.9821         0.9826         0.9830         0.9834         0.9838         0.9842         0.9846         0.9850         0.9854         0.9857           2.2         0.9861         0.9864         0.9868         0.9871         0.9875         0.9878         0.9881         0.9884         0.9857         0.9890           2.3         0.9893         0.9896         0.9898         0.9901         0.9904         0.9909         0.9911         0.9913         0.9913         0.9913         0.9913         0.9913         0.9913         0.9921         0.9952           2.5         0.9938         0.9940         0.9941         0.9943         0.9945         0.9946         0.9948         0.9949         0.9951         0.9952           2.6         0.9953         0.9955         0.9956         0.9957         0.9959         0.9960         0.9961         0.9962         0.9973         0.9974           2.7         0.9965         0.9966         0.9967         0.9977         0.9977         0.9971         0.9972         0.9973         0.9974 <td>1.9</td> <td>0.9713</td> <td>0.9719</td> <td>0.9726</td> <td>0.9732</td> <td>0.9738</td> <td>0.9744</td> <td>0.9750</td> <td>0.9756</td> <td>0.9761</td> <td>0.9767</td>	1.9	0.9713	0.9719	0.9726	0.9732	0.9738	0.9744	0.9750	0.9756	0.9761	0.9767
2.1         0.9821         0.9826         0.9830         0.9834         0.9838         0.9842         0.9846         0.9850         0.9854         0.9857           2.2         0.9861         0.9864         0.9868         0.9871         0.9875         0.9878         0.9881         0.9884         0.9887         0.9890           2.3         0.9893         0.9896         0.9898         0.9901         0.9904         0.9909         0.9911         0.9913         0.9913         0.9913         0.9913         0.9913         0.9913         0.9923         0.9934         0.9936           2.5         0.9938         0.9940         0.9941         0.9943         0.9929         0.9911         0.9912         0.9952           2.6         0.9953         0.9955         0.9956         0.9957         0.9959         0.9960         0.9961         0.9922         0.9974           2.6         0.9955         0.9956         0.9957         0.9959         0.9960         0.9961         0.9962         0.9963         0.9964           2.7         0.9965         0.9966         0.9967         0.9967         0.9977         0.9971         0.9972         0.9973         0.9974           2.9         0.9981	2.0	0.9772	0.9778	0.9783	0.9788	0.9793	0.9798	0.9803	0.9808	0.9812	0.9817
2.2         0.9861         0.9864         0.9868         0.9871         0.9875         0.9878         0.9881         0.9884         0.9887         0.9890           2.3         0.9893         0.9896         0.9898         0.9901         0.9904         0.9906         0.9909         0.9911         0.9913         0.9913         0.9913         0.9913         0.9913         0.9913         0.9913         0.9923         0.9936         0.9933         0.9933         0.9933         0.9933         0.9933         0.9933         0.9933         0.9934         0.9936           2.5         0.9938         0.9940         0.9941         0.9943         0.9945         0.9946         0.9948         0.9949         0.9951         0.9952           2.6         0.9953         0.9955         0.9956         0.9957         0.9959         0.9960         0.9961         0.9962         0.9963         0.9964           2.7         0.9965         0.9966         0.9967         0.9967         0.9977         0.9971         0.9972         0.9973         0.9974           2.8         0.9974         0.9975         0.9976         0.9977         0.9977         0.9978         0.9979         0.9970         0.9978         0.9986         0.	2.1	0.9821	0.9826	0.9830	0.9834	0.9838	0.9842	0.9846	0.9850	0.9854	0.9857
2.3         0.9893         0.9896         0.9898         0.9901         0.9904         0.9906         0.9909         0.9911         0.9913         0.9916           2.4         0.9918         0.9920         0.9922         0.9925         0.9927         0.9929         0.9931         0.9932         0.9934         0.9936           2.5         0.9938         0.9940         0.9941         0.9943         0.9946         0.9948         0.9949         0.9951         0.9952           2.6         0.9953         0.9955         0.9956         0.9957         0.9959         0.9960         0.9961         0.9962         0.9963         0.9964           2.7         0.9965         0.9966         0.9967         0.9967         0.9970         0.9971         0.9972         0.9973         0.9974           2.8         0.9974         0.9975         0.9976         0.9977         0.9977         0.9978         0.9979         0.9970         0.9979         0.9980         0.9981           2.9         0.9981         0.9982         0.9982         0.9983         0.9984         0.9985         0.9986         0.9986           3.0         0.9987         0.9987         0.9987         0.9987         0.9984	2.2	0.9861	0.9864	0.9868	0.9871	0.9875	0.9878	0.9881	0.9884	0.9887	0.9890
2.4         0.9918         0.9920         0.9922         0.9925         0.9927         0.9929         0.9931         0.9932         0.9934         0.9936           2.5         0.9938         0.9940         0.9941         0.9943         0.9945         0.9946         0.9948         0.9949         0.9951         0.9952           2.6         0.9953         0.9955         0.9956         0.9957         0.9959         0.9960         0.9961         0.9962         0.9963         0.9964           2.7         0.9965         0.9966         0.9967         0.9957         0.9970         0.9971         0.9972         0.9973         0.9974           2.8         0.9974         0.9975         0.9976         0.9977         0.9977         0.9978         0.9979         0.9980         0.9981         0.9983         0.9984         0.9984         0.9985         0.9986         0.9981           2.9         0.9981         0.9982         0.9982         0.9983         0.9984         0.9985         0.9985         0.9986         0.9986         0.9986         0.9986         0.9986         0.9986         0.9986         0.9986         0.9986         0.9991         0.9991         0.9991         0.9991         0.9991         0.	2.3	0.9893	0.9896	0.9898	0.9901	0.9904	0.9906	0.9909	0.9911	0.9913	0.9916
2.5         0.9938         0.9940         0.9941         0.9943         0.9945         0.9946         0.9948         0.9949         0.9951         0.9952           2.6         0.9953         0.9955         0.9956         0.9957         0.9959         0.9960         0.9961         0.9962         0.9963         0.9964           2.7         0.9965         0.9966         0.9967         0.9968         0.9970         0.9971         0.9972         0.9973         0.9974           2.8         0.9974         0.9975         0.9976         0.9977         0.9977         0.9978         0.9979         0.9970         0.9973         0.9974           2.9         0.9981         0.9982         0.9982         0.9983         0.9984         0.9985         0.9985         0.9986         0.9986           3.0         0.9987         0.9987         0.9987         0.9987         0.9988         0.9984         0.9985         0.9980         0.9990         0.9990           3.1         0.9990         0.9991         0.9991         0.9994         0.9994         0.9994         0.9994         0.9994         0.9995         0.9995         0.9995         0.9995         0.9995         0.9995         0.9995         0.9995 <td>2.4</td> <td>0.9918</td> <td>0.9920</td> <td>0.9922</td> <td>0.9925</td> <td>0.9927</td> <td>0.9929</td> <td>0.9931</td> <td>0.9932</td> <td>0.9934</td> <td>0.9936</td>	2.4	0.9918	0.9920	0.9922	0.9925	0.9927	0.9929	0.9931	0.9932	0.9934	0.9936
2.6         0.9953         0.9955         0.9956         0.9957         0.9959         0.9960         0.9961         0.9962         0.9963         0.9964           2.7         0.9965         0.9966         0.9967         0.9968         0.9970         0.9971         0.9972         0.9973         0.9974           2.8         0.9974         0.9975         0.9976         0.9977         0.9978         0.9979         0.9979         0.9980         0.9981           2.9         0.9981         0.9982         0.9982         0.9983         0.9984         0.9985         0.9985         0.9986         0.9986           3.0         0.9987         0.9987         0.9987         0.9987         0.9988         0.9988         0.9989         0.9989         0.9990         0.9990           3.1         0.9990         0.9991         0.9991         0.9991         0.9994         0.9992         0.9992         0.9992         0.9993         0.9995         0.9995         0.9995         0.9995         0.9995         0.9995         0.9995         0.9995         0.9995         0.9995         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.	2.5	0.9938	0.9940	0.9941	0.9943	0.9945	0.9946	0.9948	0.9949	0.9951	0.9952
2.7         0.9965         0.9966         0.9967         0.9968         0.9969         0.9970         0.9971         0.9972         0.9973         0.9974           2.8         0.9974         0.9975         0.9976         0.9977         0.9978         0.9979         0.9979         0.9973         0.9974           2.9         0.9981         0.9982         0.9982         0.9983         0.9984         0.9984         0.9985         0.9985         0.9986         0.9986           3.0         0.9987         0.9987         0.9987         0.9987         0.9988         0.9988         0.9989         0.9989         0.9990         0.9990           3.1         0.9990         0.9991         0.9991         0.9991         0.9992         0.9992         0.9992         0.9992         0.9993         0.9993           3.2         0.9993         0.9993         0.9994         0.9994         0.9994         0.9994         0.9994         0.9995         0.9995         0.9995           3.3         0.9995         0.9995         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997 <td>2.6</td> <td>0.9953</td> <td>0.9955</td> <td>0.9956</td> <td>0.9957</td> <td>0.9959</td> <td>0.9960</td> <td>0.9961</td> <td>0.9962</td> <td>0.9963</td> <td>0.9964</td>	2.6	0.9953	0.9955	0.9956	0.9957	0.9959	0.9960	0.9961	0.9962	0.9963	0.9964
2.8         0.9974         0.9975         0.9976         0.9977         0.9978         0.9979         0.9979         0.9980         0.9981           2.9         0.9981         0.9982         0.9982         0.9983         0.9984         0.9984         0.9985         0.9985         0.9986         0.9986           3.0         0.9987         0.9987         0.9987         0.9987         0.9988         0.9988         0.9989         0.9989         0.9990         0.9990           3.1         0.9990         0.9991         0.9991         0.9991         0.9992         0.9992         0.9992         0.9992         0.9993         0.9993           3.2         0.9993         0.9993         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9995         0.9995         0.9995         0.9995         0.9995         0.9995         0.9995         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997	2.7	0.9965	0.9966	0.9967	0.9968	0.9969	0.9970	0.9971	0.9972	0.9973	0.9974
2.9         0.9981         0.9982         0.9982         0.9983         0.9984         0.9984         0.9985         0.9985         0.9986         0.9986           3.0         0.9987         0.9987         0.9987         0.9987         0.9988         0.9988         0.9989         0.9989         0.9989         0.9990         0.9990         0.9990           3.1         0.9990         0.9991         0.9991         0.9991         0.9992         0.9992         0.9992         0.9992         0.9993         0.9993         0.9993         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9995         0.9995         0.9995         0.9997           3.3         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997 <td>2.8</td> <td>0.9974</td> <td>0.9975</td> <td>0.9976</td> <td>0.9977</td> <td>0.9977</td> <td>0.9978</td> <td>0.9979</td> <td>0.9979</td> <td>0.9980</td> <td>0.9981</td>	2.8	0.9974	0.9975	0.9976	0.9977	0.9977	0.9978	0.9979	0.9979	0.9980	0.9981
3.0         0.9987         0.9987         0.9987         0.9988         0.9988         0.9989         0.9989         0.9989         0.9990         0.9990           3.1         0.9990         0.9991         0.9991         0.9991         0.9991         0.9992         0.9992         0.9992         0.9992         0.9993         0.9993         0.9993           3.2         0.9993         0.9993         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.	2.9	0.9981	0.9982	0.9982	0.9983	0.9984	0.9984	0.9985	0.9985	0.9986	0.9986
3.1         0.9990         0.9991         0.9991         0.9991         0.9992         0.9992         0.9992         0.9993         0.9993         0.9993           3.2         0.9993         0.9993         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9995         0.9995         0.9995         0.9995         0.9995         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997	3.0	0.9987	0.9987	0.9987	0.9988	0.9988	0.9989	0.9989	0.9989	0.9990	0.9990
3.2         0.9993         0.9993         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9994         0.9995         0.9995         0.9995         0.9995         0.9996         0.9996         0.9996         0.9996         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997 <td>3.1</td> <td>0.9990</td> <td>0.9991</td> <td>0.9991</td> <td>0.9991</td> <td>0.9992</td> <td>0.9992</td> <td>0.9992</td> <td>0.9992</td> <td>0.9993</td> <td>0.9993</td>	3.1	0.9990	0.9991	0.9991	0.9991	0.9992	0.9992	0.9992	0.9992	0.9993	0.9993
3.3         0.9995         0.9995         0.9995         0.9996         0.9996         0.9996         0.9996         0.9997           3.4         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997         0.9997	3.2	0.9993	0.9993	0.9994	0.9994	0.9994	0.9994	0.9994	0.9995	0.9995	0.9995
3.4 0.9997 0.9997 0.9997 0.9997 0.9997 0.9997 0.9997 0.9997 0.9997 0.9998	3.3	0.9995	0.9995	0.9995	0.9996	0.9996	0.9996	0.9996	0.9996	0.9996	0.9997
	3.4	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9998

Compute  $P(X \le -0.69)$ . [The answer should be a number rounded to five decimal places, don't use symbols

such as %]

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One possible correct answer is: 0.86645915893067

Compute  $P(X \ge -1.39)$ . 3409 [The answer should be a number rounded to five decimal places, don't use symbols such as %]

V

One possible correct answer is: 0.3399752505073

Compute  $P(X \le -2.91)$ . 1335 [The answer should be a number rounded to five decimal places, don't use symbols such as %]

 $\checkmark$ 

One possible correct answer is: 0.13354084106933									
Compute $P(X \ge -3.46).$	Compute $P(X \ge -3.46)$ . 9515 [The answer should be a number rounded to five decimal places, don't use symbol such as %]								
One possible correct answer is: 0.95132892880743									
Your answer is correct.									
← Practice Essay Exam	Jump to	Short exam-chapter 2-makeup December 14 →							

Data retention summary Switch to the standard theme

Correct Mark 5.00 out of 5.00

# Let X be a random variable that follows the normal distribution with $\mu_X=1.4$ and $\sigma_X^2=4.$

## Probabilities for the standard normal distribution



z

Table entry for z is the probability lying to the left of z

z	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
0.0	0.5000	0.5040	0.5080	0.5120	0.5160	0.5199	0.5239	0.5279	0.5319	0.5359
0.1	0.5398	0.5438	0.5478	0.5517	0.5557	0.5596	0.5636	0.5675	0.5714	0.5753
0.2	0.5793	0.5832	0.5871	0.5910	0.5948	0.5987	0.6026	0.6064	0.6103	0.6141
0.3	0.6179	0.6217	0.6255	0.6293	0.6331	0.6368	0.6406	0.6443	0.6480	0.6517
0.4	0.6554	0.6591	0.6628	0.6664	0.6700	0.6736	0.6772	0.6808	0.6844	0.6879
0.5	0.6915	0.6950	0.6985	0.7019	0.7054	0.7088	0.7123	0.7157	0.7190	0.7224
0.6	0.7257	0.7291	0.7324	0.7357	0.7389	0.7422	0.7454	0.7486	0.7517	0.7549
0.7	0.7580	0.7611	0.7642	0.7673	0.7704	0.7734	0.7764	0.7794	0.7823	0.7852
0.8	0.7881	0.7910	0.7939	0.7967	0.7995	0.8023	0.8051	0.8078	0.8106	0.8133
0.9	0.8159	0.8186	0.8212	0.8238	0.8264	0.8289	0.8315	0.8340	0.8365	0.8389
1.0	0.8413	0.8438	0.8461	0.8485	0.8508	0.8531	0.8554	0.8577	0.8599	0.8621
1.1	0.8643	0.8665	0.8686	0.8708	0.8729	0.8749	0.8770	0.8790	0.8810	0.8830
1.2	0.8849	0.8869	0.8888	0.8907	0.8925	0.8944	0.8962	0.8980	0.8997	0.9015
1.3	0.9032	0.9049	0.9066	0.9082	0.9099	0.9115	0.9131	0.9147	0.9162	0.9177
1.4	0.9192	0.9207	0.9222	0.9236	0.9251	0.9265	0.9279	0.9292	0.9306	0.9319
1.5	0.9332	0.9345	0.9357	0.9370	0.9382	0.9394	0.9406	0.9418	0.9429	0.9441
1.6	0.9452	0.9463	0.9474	0.9484	0.9495	0.9505	0.9515	0.9525	0.9535	0.9545
1.7	0.9554	0.9564	0.9573	0.9582	0.9591	0.9599	0.9608	0.9616	0.9625	0.9633
1.8	0.9641	0.9649	0.9656	0.9664	0.9671	0.9678	0.9686	0.9693	0.9699	0.9706
1.9	0.9713	0.9719	0.9726	0.9732	0.9738	0.9744	0.9750	0.9756	0.9761	0.9767
2.0	0.9772	0.9778	0.9783	0.9788	0.9793	0.9798	0.9803	0.9808	0.9812	0.9817
2.1	0.9821	0.9826	0.9830	0.9834	0.9838	0.9842	0.9846	0.9850	0.9854	0.9857
2.2	0.9861	0.9864	0.9868	0.9871	0.9875	0.9878	0.9881	0.9884	0.9887	0.9890
2.3	0.9893	0.9896	0.9898	0.9901	0.9904	0.9906	0.9909	0.9911	0.9913	0.9916
2.4	0.9918	0.9920	0.9922	0.9925	0.9927	0.9929	0.9931	0.9932	0.9934	0.9936
2.5	0.9938	0.9940	0.9941	0.9943	0.9945	0.9946	0.9948	0.9949	0.9951	0.9952
2.6	0.9953	0.9955	0.9956	0.9957	0.9959	0.9960	0.9961	0.9962	0.9963	0.9964
2.7	0.9965	0.9966	0.9967	0.9968	0.9969	0.9970	0.9971	0.9972	0.9973	0.9974
2.8	0.9974	0.9975	0.9976	0.9977	0.9977	0.9978	0.9979	0.9979	0.9980	0.9981
2.9	0.9981	0.9982	0.9982	0.9983	0.9984	0.9984	0.9985	0.9985	0.9986	0.9986
3.0	0.9987	0.9987	0.9987	0.9988	0.9988	0.9989	0.9989	0.9989	0.9990	0.9990
3.1	0.9990	0.9991	0.9991	0.9991	0.9992	0.9992	0.9992	0.9992	0.9993	0.9993
3.2	0.9993	0.9993	0.9994	0.9994	0.9994	0.9994	0.9994	0.9995	0.9995	0.9995
3.3	0.9995	0.9995	0.9995	0.9996	0.9996	0.9996	0.9996	0.9996	0.9996	0.9997
3.4	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9998

Compute  $P(X \le 4.54)$ . 0.941 [The answer should be a number rounded to five decimal places, don't use symbols such

as %] ~

One possible correct answer is: 0.94156027936196

Compute  $P(X \ge 4.3)$ . 0.073 [The answer should be a number rounded to five decimal places, don't use symbols such as %]

V

One possible correct answer is: 0.07376516091827

Compute  $P(X \leq -0.04)$ . 0.235 [The answer should be a number rounded to five decimal places, don't use symbols such as %]

 $\checkmark$ 



Correct Mark 5.00 out of 5.00

Let X be a random variable that follows the normal distribution with  $\mu_X = 5.6$  and  $\sigma_X^2 = 4$ . A new random variable Y is defined by the transformation Y=|X-1|, where  $|\eta|$  is the absolute value of  $\eta$ .

# Probabilities for the standard normal distribution



Table entry for z is the probability lying to the left of  $\boldsymbol{z}$ 

2	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
0.0	0.5000	0.5040	0.5080	0.5120	0.5160	0.5199	0.5239	0.5279	0.5319	0.5359
0.1	0.5398	0.5438	0.5478	0.5517	0.5557	0.5596	0.5636	0.5675	0.5714	0.5753
0.2	0.5793	0.5832	0.5871	0.5910	0.5948	0.5987	0.6026	0.6064	0.6103	0.6141
0.3	0.6179	0.6217	0.6255	0.6293	0.6331	0.6368	0.6406	0.6443	0.6480	0.6517
0.4	0.6554	0.6591	0.6628	0.6664	0.6700	0.6736	0.6772	0.6808	0.6844	0.6879
0.5	0.6915	0.6950	0.6985	0.7019	0.7054	0.7088	0.7123	0.7157	0.7190	0.7224
0.6	0.7257	0.7291	0.7324	0.7357	0.7389	0.7422	0.7454	0.7486	0.7517	0.7549
0.7	0.7580	0.7611	0.7642	0.7673	0.7704	0.7734	0.7764	0.7794	0.7823	0.7852
0.8	0.7881	0.7910	0.7939	0.7967	0.7995	0.8023	0.8051	0.8078	0.8106	0.8133
0.9	0.8159	0.8186	0.8212	0.8238	0.8264	0.8289	0.8315	0.8340	0.8365	0.8389
1.0	0.8413	0.8438	0.8461	0.8485	0.8508	0.8531	0.8554	0.8577	0.8599	0.8621
1.1	0.8643	0.8665	0.8686	0.8708	0.8729	0.8749	0.8770	0.8790	0.8810	0.8830
1.2	0.8849	0.8869	0.8888	0.8907	0.8925	0.8944	0.8962	0.8980	0.8997	0.9015
1.3	0.9032	0.9049	0.9066	0.9082	0.9099	0.9115	0.9131	0.9147	0.9162	0.9177
1.4	0.9192	0.9207	0.9222	0.9236	0.9251	0.9265	0.9279	0.9292	0.9306	0.9319
1.5	0.9332	0.9345	0.9357	0.9370	0.9382	0.9394	0.9406	0.9418	0.9429	0.9441
1.6	0.9452	0.9463	0.9474	0.9484	0.9495	0.9505	0.9515	0.9525	0.9535	0.9545
1.7	0.9554	0.9564	0.9573	0.9582	0.9591	0.9599	0.9608	0.9616	0.9625	0.9633
1.8	0.9641	0.9649	0.9656	0.9664	0.9671	0.9678	0.9686	0.9693	0.9699	0.9706
1.9	0.9713	0.9719	0.9726	0.9732	0.9738	0.9744	0.9750	0.9756	0.9761	0.9767
2.0	0.9772	0.9778	0.9783	0.9788	0.9793	0.9798	0.9803	0.9808	0.9812	0.9817
2.1	0.9821	0.9826	0.9830	0.9834	0.9838	0.9842	0.9846	0.9850	0.9854	0.9857
2.2	0.9861	0.9864	0.9868	0.9871	0.9875	0.9878	0.9881	0.9884	0.9887	0.9890
2.3	0.9893	0.9896	0.9898	0.9901	0.9904	0.9906	0.9909	0.9911	0.9913	0.9916
2.4	0.9918	0.9920	0.9922	0.9925	0.9927	0.9929	0.9931	0.9932	0.9934	0.9936
2.5	0.9938	0.9940	0.9941	0.9943	0.9945	0.9946	0.9948	0.9949	0.9951	0.9952
2.6	0.9953	0.9955	0.9956	0.9957	0.9959	0.9960	0.9961	0.9962	0.9963	0.9964
2.7	0.9965	0.9966	0.9967	0.9968	0.9969	0.9970	0.9971	0.9972	0.9973	0.9974
2.8	0.9974	0.9975	0.9976	0.9977	0.9977	0.9978	0.9979	0.9979	0.9980	0.9981
2.9	0.9981	0.9982	0.9982	0.9983	0.9984	0.9984	0.9985	0.9985	0.9986	0.9986
3.0	0.9987	0.9987	0.9987	0.9988	0.9988	0.9989	0.9989	0.9989	0.9990	0.9990
3.1	0.9990	0.9991	0.9991	0.9991	0.9992	0.9992	0.9992	0.9992	0.9993	0.9993
3.2	0.9993	0.9993	0.9994	0.9994	0.9994	0.9994	0.9994	0.9995	0.9995	0.9995
3.3	0.9995	0.9995	0.9995	0.9996	0.9996	0.9996	0.9996	0.9996	0.9996	0.9997
3.4	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9998

Compute  $P(Y \le 0.5)$ . If the required probability does not appear in the table below. Use the closest probability value. 0.014 [The answer should be a number rounded to five decimal places, don't use symbols such as %]

One possible correct answer is: 0.01488744797517

Your answer is correct.

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Question 6 Incorrect Mark 0.00 out of 5.00	Let X be a random variable probability density function $f(x) = \begin{cases} 5x^4, & 0 \le x \\ 0, & \text{otherw} \end{cases}$ Compute the probability the been working on the softwar use symbols such as %] <b>X</b> One possible correct answer Your answer is incorrect.	representing the time (in years) it takes to dever $\leq 1$ rise. at it takes more than 6 months to develop the source for 2 months. 0.031 <i>[The answer should be</i> or is: 0.96887459807074	elop software. Suppose that X has the following software given that the developer has already e a number rounded to five decimal places, don't
← Practice Essa	y Exam	Jump to	Short exam-chapter 2-makeup December 14 →

Data retention summary Switch to the standard theme <u>Dashboard</u> / My courses / <u>PROBABILITY AND ENGINEERING STATISTICS-Lecture-1201 - meta</u> / <u>Chapter Two</u> / <u>Short exam-chapter 2-makeup December 12</u>



Correct Mark 5.00 out of 5.00 Let X be a random variable that follows the normal distribution with  $\mu_X = 4.6$  and  $\sigma_X^2 = 4$ . A new random variable Y is defined by the transformation Y=|X-1|, where  $|\eta|$  is the absolute value of  $\eta$ .

# Probabilities for the standard normal distribution



Table entry for z is the probability lying to the left of z

	00	01	0.2	0.2	0.4	07	06	07	00	
2	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
0.0	0.5000	0.5040	0.5080	0.5120	0.5160	0.5199	0.5239	0.5279	0.5319	0.5359
0.1	0.5398	0.5438	0.5478	0.5517	0.5557	0.5596	0.5636	0.5675	0.5714	0.5753
0.2	0.5793	0.5832	0.5871	0.5910	0.5948	0.5987	0.6026	0.6064	0.6103	0.6141
0.3	0.6179	0.6217	0.6255	0.6293	0.6331	0.6368	0.6406	0.6443	0.6480	0.6517
0.4	0.6554	0.6591	0.6628	0.6664	0.6700	0.6736	0.6772	0.6808	0.6844	0.6879
0.5	0.6915	0.6950	0.6985	0.7019	0.7054	0.7088	0.7123	0.7157	0.7190	0.7224
0.6	0.7257	0.7291	0.7324	0.7357	0.7389	0.7422	0.7454	0.7486	0.7517	0.7549
0.7	0.7580	0.7611	0.7642	0.7673	0.7704	0.7734	0.7764	0.7794	0.7823	0.7852
0.8	0.7881	0.7910	0.7939	0.7967	0.7995	0.8023	0.8051	0.8078	0.8106	0.8133
0.9	0.8159	0.8186	0.8212	0.8238	0.8264	0.8289	0.8315	0.8340	0.8365	0.8389
1.0	0.8413	0.8438	0.8461	0.8485	0.8508	0.8531	0.8554	0.8577	0.8599	0.8621
1.1	0.8643	0.8665	0.8686	0.8708	0.8729	0.8749	0.8770	0.8790	0.8810	0.8830
1.2	0.8849	0.8869	0.8888	0.8907	0.8925	0.8944	0.8962	0.8980	0.8997	0.9015
1.3	0.9032	0.9049	0.9066	0.9082	0.9099	0.9115	0.9131	0.9147	0.9162	0.9177
1.4	0.9192	0.9207	0.9222	0.9236	0.9251	0.9265	0.9279	0.9292	0.9306	0.9319
1.5	0.9332	0.9345	0.9357	0.9370	0.9382	0.9394	0.9406	0.9418	0.9429	0.9441
1.6	0.9452	0.9463	0.9474	0.9484	0.9495	0.9505	0.9515	0.9525	0.9535	0.9545
1.7	0.9554	0.9564	0.9573	0.9582	0.9591	0.9599	0.9608	0.9616	0.9625	0.9633
1.8	0.9641	0.9649	0.9656	0.9664	0.9671	0.9678	0.9686	0.9693	0.9699	0.9706
1.9	0.9713	0.9719	0.9726	0.9732	0.9738	0.9744	0.9750	0.9756	0.9761	0.9767
2.0	0.9772	0.9778	0.9783	0.9788	0.9793	0.9798	0.9803	0.9808	0.9812	0.9817
2.1	0.9821	0.9826	0.9830	0.9834	0.9838	0.9842	0.9846	0.9850	0.9854	0.9857
2.2	0.9861	0.9864	0.9868	0.9871	0.9875	0.9878	0.9881	0.9884	0.9887	0.9890
2.3	0.9893	0.9896	0.9898	0.9901	0.9904	0.9906	0.9909	0.9911	0.9913	0.9916
2.4	0.9918	0.9920	0.9922	0.9925	0.9927	0.9929	0.9931	0.9932	0.9934	0.9936
2.5	0.9938	0.9940	0.9941	0.9943	0.9945	0.9946	0.9948	0.9949	0.9951	0.9952
2.6	0.9953	0.9955	0.9956	0.9957	0.9959	0.9960	0.9961	0.9962	0.9963	0.9964
2.7	0.9965	0.9966	0.9967	0.9968	0.9969	0.9970	0.9971	0.9972	0.9973	0.9974
2.8	0.9974	0.9975	0.9976	0.9977	0.9977	0.9978	0.9979	0.9979	0.9980	0.9981
2.9	0.9981	0.9982	0.9982	0.9983	0.9984	0.9984	0.9985	0.9985	0.9986	0.9986
3.0	0.9987	0.9987	0.9987	0.9988	0.9988	0.9989	0.9989	0.9989	0.9990	0.9990
3.1	0.9990	0.9991	0.9991	0.9991	0.9992	0.9992	0.9992	0.9992	0.9993	0.9993
3.2	0.9993	0.9993	0.9994	0.9994	0.9994	0.9994	0.9994	0.9995	0.9995	0.9995
3.3	0.9995	0.9995	0.9995	0.9996	0.9996	0.9996	0.9996	0.9996	0.9996	0.9997
3.4	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9998

Compute  $P(Y \le 0.8)$ . If the required probability does not appear in the table below. Use the closest probability value. 0.066 [The answer should be a number rounded to five decimal places, don't use symbols such as %]

One possible correct answer is: 0.067041133964812

Your answer is correct.

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luestion

Correct Mark 5.00 out of 5.00

## Probabilities for the standard normal distribution



z

Table entry for z is the probability lying to the left of z

2	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
0.0	0.5000	0.5040	0.5080	0.5120	0.5160	0.5199	0.5239	0.5279	0.5319	0.5359
0.1	0.5398	0.5438	0.5478	0.5517	0.5557	0.5596	0.5636	0.5675	0.5714	0.5753
0.2	0.5793	0.5832	0.5871	0.5910	0.5948	0.5987	0.6026	0.6064	0.6103	0.6141
0.3	0.6179	0.6217	0.6255	0.6293	0.6331	0.6368	0.6406	0.6443	0.6480	0.6517
0.4	0.6554	0.6591	0.6628	0.6664	0.6700	0.6736	0.6772	0.6808	0.6844	0.6879
0.5	0.6915	0.6950	0.6985	0.7019	0.7054	0.7088	0.7123	0.7157	0.7190	0.7224
0.6	0.7257	0.7291	0.7324	0.7357	0.7389	0.7422	0.7454	0.7486	0.7517	0.7549
0.7	0.7580	0.7611	0.7642	0.7673	0.7704	0.7734	0.7764	0.7794	0.7823	0.7852
0.8	0.7881	0.7910	0.7939	0.7967	0.7995	0.8023	0.8051	0.8078	0.8106	0.8133
0.9	0.8159	0.8186	0.8212	0.8238	0.8264	0.8289	0.8315	0.8340	0.8365	0.8389
1.0	0.8413	0.8438	0.8461	0.8485	0.8508	0.8531	0.8554	0.8577	0.8599	0.8621
1.1	0.8643	0.8665	0.8686	0.8708	0.8729	0.8749	0.8770	0.8790	0.8810	0.8830
1.2	0.8849	0.8869	0.8888	0.8907	0.8925	0.8944	0.8962	0.8980	0.8997	0.9015
1.3	0.9032	0.9049	0.9066	0.9082	0.9099	0.9115	0.9131	0.9147	0.9162	0.9177
1.4	0.9192	0.9207	0.9222	0.9236	0.9251	0.9265	0.9279	0.9292	0.9306	0.9319
1.5	0.9332	0.9345	0.9357	0.9370	0.9382	0.9394	0.9406	0.9418	0.9429	0.9441
1.6	0.9452	0.9463	0.9474	0.9484	0.9495	0.9505	0.9515	0.9525	0.9535	0.9545
1.7	0.9554	0.9564	0.9573	0.9582	0.9591	0.9599	0.9608	0.9616	0.9625	0.9633
1.8	0.9641	0.9649	0.9656	0.9664	0.9671	0.9678	0.9686	0.9693	0.9699	0.9706
1.9	0.9713	0.9719	0.9726	0.9732	0.9738	0.9744	0.9750	0.9756	0.9761	0.9767
2.0	0.9772	0.9778	0.9783	0.9788	0.9793	0.9798	0.9803	0.9808	0.9812	0.9817
2.1	0.9821	0.9826	0.9830	0.9834	0.9838	0.9842	0.9846	0.9850	0.9854	0.9857
2.2	0.9861	0.9864	0.9868	0.9871	0.9875	0.9878	0.9881	0.9884	0.9887	0.9890
2.3	0.9893	0.9896	0.9898	0.9901	0.9904	0.9906	0.9909	0.9911	0.9913	0.9916
2.4	0.9918	0.9920	0.9922	0.9925	0.9927	0.9929	0.9931	0.9932	0.9934	0.9936
2.5	0.9938	0.9940	0.9941	0.9943	0.9945	0.9946	0.9948	0.9949	0.9951	0.9952
2.6	0.9953	0.9955	0.9956	0.9957	0.9959	0.9960	0.9961	0.9962	0.9963	0.9964
2.7	0.9965	0.9966	0.9967	0.9968	0.9969	0.9970	0.9971	0.9972	0.9973	0.9974
2.8	0.9974	0.9975	0.9976	0.9977	0.9977	0.9978	0.9979	0.9979	0.9980	0.9981
2.9	0.9981	0.9982	0.9982	0.9983	0.9984	0.9984	0.9985	0.9985	0.9986	0.9986
3.0	0.9987	0.9987	0.9987	0.9988	0.9988	0.9989	0.9989	0.9989	0.9990	0.9990
3.1	0.9990	0.9991	0.9991	0.9991	0.9992	0.9992	0.9992	0.9992	0.9993	0.9993
3.2	0.9993	0.9993	0.9994	0.9994	0.9994	0.9994	0.9994	0.9995	0.9995	0.9995
3.3	0.9995	0.9995	0.9995	0.9996	0.9996	0.9996	0.9996	0.9996	0.9996	0.9997
3.4	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9998

Compute  $P(X \le 2.82)$ . 0.968 [The answer should be a number rounded to five decimal places, don't use symbols such

as %] ~

One possible correct answer is: 0.96840871227336

Compute  $P(X \ge 3.74)$ . 0.010 [The answer should be a number rounded to five decimal places, don't use symbols such as %]

One possible correct answer is: 0.010186428631595

Compute  $P(X \le -4.74)$ . 0.027 [The answer should be a number rounded to five decimal places, don't use symbols such as %]

 $\checkmark$ 

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