

You measured an angle (زاوية) $x = 40.2^\circ \pm 0.7^\circ$.
Calculate $R = \sin x$ and write it on the correct form of significant figures.

- a. $R = 0.65 \pm 0.53$
- b. $R = 0.7638 \pm 0.0068$
- c. $R = 0.65 \pm 0.00$
- d. $R = 0.645 \pm 0.009$
- e. $R = 0.6455 \pm 0.0093$



The precision of a measurement is decreased by small systematic errors.

Select one:

- True
- False ✓

What is the correct form to write the measurement $m = 2.3678 \times 10^3 \pm 31$ kg, with the suitable number of significant figures?

- a. 23678 ± 30 kg
- b. 2370 ± 30.00 kg
- c. 2370 ± 30 kg
- d. 2367.8 ± 31 kg
- e. 23670 ± 30 kg



Seven students measured the radius of a sphere and found the following results:

6.59 cm, 6.34 cm, 6.22 cm, 6.6 cm, 6.63 cm, 6.53 cm, and 6.54 cm. What is the best value of the sphere's radius in cm, estimated to the right number of significant figures?

- a. 6.5
- b. 6.49
- c. 7.58
- d. 6
- e. 6.493



You measured the speed of a ball and repeated your measurements twenty times. The sample standard deviation of your measurements was 40 m/s. What is the standard deviation of the mean?

- a. 40 m/s
- b. 9
- c. 9 m/s
- d. 8.9
- e. 2.00 m/s



The accuracy of a measurement is increased by small systematic errors.

Select one:

True ✓

False

Find the surface area in cm^2 of a sphere of radius $r = 2.2$ cm.

- a. 15.2
- b. 15
- c. 28
- d. 60.8
- e. 61

