

b) Compounded monthly

$$S = p \left(1 + \frac{r}{12}\right)^{12t}$$

$$2p = p \left(1 + \frac{r}{12}\right)^{12 \times 6}$$

$$2p = p \left(1 + \frac{r}{12}\right)^{72} \rightarrow \frac{2p}{p} = \frac{p}{p} \left(1 + \frac{r}{12}\right)^{72}$$

$$2 = \left(1 + \frac{r}{12}\right)^{72}$$

$$(2)^{\frac{1}{72}} = \left(1 + \frac{r}{12}\right)^{72 \left(\frac{1}{72}\right)}$$

التكامل من قوة 72 إلى 1  
القسمة على 72

$$1.00967 = 1 + \frac{r}{12}$$

$$1.00967 - 1 = \frac{r}{12}$$

$$.00967 = \frac{r}{12} \rightarrow$$

~~0.116~~  
~~1.16%~~  
~~11.6%~~

$$\begin{aligned} \therefore r &= 12(.00967) = .116 \\ &= .116 \times 100\% \\ &= 11.6\% \end{aligned}$$