

1) Answer: D

Explanation: A percent is a fraction with 100 as the denominator. Thus, 92% is equal to $\frac{92}{100}$. If we simplify $\frac{92}{100}$ (the [Greatest Common Factor or GCF](#) of 92 and 100 is 4), we get:

$$\frac{92 \div 4}{100 \div 4} = \frac{23}{25}$$

Thus, 92% is also equal to $\frac{23}{25}$.

2) Answer: C

Explanation: Let us calculate the percentage for each option:

(a) 50% of 320 is simply 320 divided by 2. Therefore, $320 \div 2 = 160$

(b) 75% of 100 can be calculated by dividing 100 by 4 and multiplying the result by 3: $100 \div 4 = 25 \times 3 = 75$

(c) 100% of 70 is equal to 70 (since 100% of a number is the number itself)

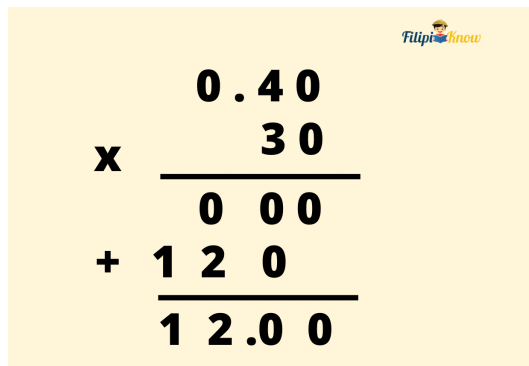
(d) 25% of 420 can be obtained by dividing 420 by 4. Therefore, $420 \div 4 = 105$

Hence, among the given options, the one in letter c has the least value which is 70

3) Answer: A

Explanation: 40% of 30 can be determined by multiplying 40% by 30. 40% when transformed as a decimal number is 0.40.

Multiplying 0.40 by 30:



$$\begin{array}{r} \text{0.40} \\ \times \quad \text{30} \\ \hline \text{000} \\ + \text{120} \\ \hline \text{12.00} \end{array}$$

Thus, 40% of 30 is 12.

4) Answer: D

Explanation: To determine how many participants are Physicists, we need to determine the 72% of 25. Note that 72% of 25 is also equivalent to 25% of 72. We know that when obtaining the 25% of a number, we can just simply divide the given number by 4. Thus, let us divide 72 by 4:

$$72 \div 4 = 18$$

This means that 72% of 25 is 18. Therefore, 18 of the participants are Physicists.

5) Answer: C

Explanation: The statement "60% of a number is 27" can be translated as "60% of _____ is 27 or $60\% \times \text{_____} = 27$. Thus, 60% is the rate while 27 is the percentage. This means that the missing number is the base.

The formula to determine the base is:

$$\text{Base} = \text{Percentage} \div \text{Rate}$$

Using 60% as the rate and 27 as the percentage to the formula:

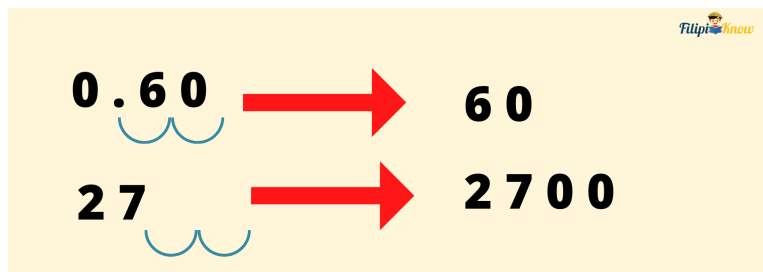
$$\text{Base} = 27 \div 60\%$$

If you convert 60% into decimal form, it will be 0.60. Thus,

$$\text{Base} = 27 \div 0.60$$

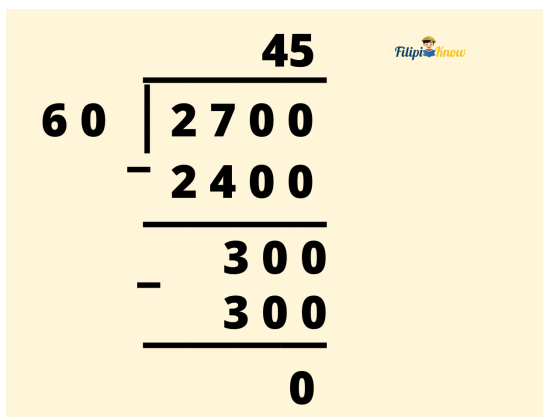
Let us apply the steps in dividing [decimal numbers](#):

0.60 can be transformed into a whole number by moving two decimal places to the right. Thus, 0.60 will be 60. Meanwhile, we should also move the decimal point of 27 to the right two times. Thus, we obtain 2700



$$\begin{array}{ccc} 0.60 & \xrightarrow{\text{red arrow}} & 60 \\ 27 & \xrightarrow{\text{red arrow}} & 2700 \end{array}$$

We can now divide 2700 by 60:



$$\begin{array}{r} 45 \\ 60 \overline{) 2700} \\ \underline{- 2400} \\ 300 \\ \underline{- 300} \\ 0 \end{array}$$

Thus, 60% of 27 is equal to 45.