

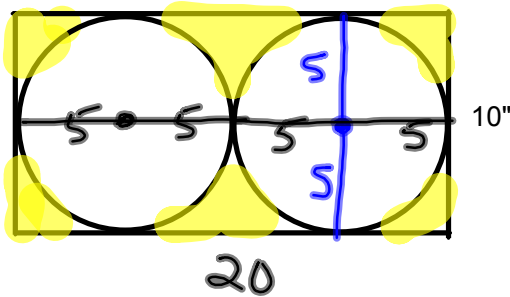
6-5 Solving Percent Problems with Equations

$\left(\frac{\text{part}}{\text{whole}}\right)$

Warm-Up

$.21 = 21\%$

1. Find the probability of landing in the shaded region of the target below.



Area of Rect: $l \cdot w = 20(10) = 200$

Area of Circle: $\pi r^2 = \pi(5)^2 = 25\pi$
 $\times 2$
 50π

Area of Shaded:

$= 200 - 50\pi$

$\frac{42.9}{200} = \boxed{.21} = 42.9$

IS = equals

OF = Multiply

WHAT = variable

* Remember to change % to decimals and decimals to percents.

Examples

1. What is 50% of 300?

$$X = .5(300)$$

$$X = 150$$

2. What is 5% of 300?

$$y = .05(300) = 15$$

3. What is .5% of 300?

$$X = .005(300) = 1.5$$

4. What is 2% of 93?

$$X = .02(93) = 1.86$$

5. 112% of 650 is what number?

$$1.12(650) = X$$

$$728 = X$$

6. 7% of what number is 31.5?

$$\frac{.07}{.07}(X) = \frac{31.5}{.07}$$

$$X = 450$$

7. A Jacket costs \$70 on sale. This is after a 20% sale. What is the original price? _____



$X = \text{original price}$

$$\text{Selling price} = \text{original} - \text{discount}$$

$$70 = 1X - .20X$$

$$\frac{70}{.8} = \frac{.8X}{.8}$$

$$X = \$87.50$$

8. Your car after tax is \$10,500. Tax is 5%. What was the price before tax was added?

How much money did you pay in tax?

$x = \text{original price of car}$

TOTAL = price of car + tax

$$10,500 = 1x + .05x$$

$$10,500 = \frac{1.05x}{1.05} \quad \frac{1.05x}{1.05} = 10,000$$



9. There's a sale at your favorite store. Everything is 25% off. You pay \$40 for a pair of jeans (without tax). What would you have paid if the jeans were not on sale?

$x = \text{original}$

\$53.33



Selling = original - discount

$$40 = 1x - .25x$$

$$40 = .75x \quad x = \$53.33$$

$x = \text{original}$
\$120

10. A digital camera costs \$126 with 5% tax. How much is the camera before tax is added?

Selling = original + tax

$$126 = 1x + .05x$$

$$126 = \frac{1.05x}{1.05} \quad x = \$120$$

