

Solving Equations Unit REVIEW

Date _____ Period _____

Solve each equation.

1) $-14 = \frac{r}{4}$

2) $n - 5 = -13$

3) $20 = m + 17$

4) $-114 = 19p$

5) $6(v - 7) = -18$

6) $7 = 8 + \frac{a}{15}$

7) $9 - 2x = 47$

8) $1 = \frac{b - 5}{4}$

Define a variable, and then write an equation for each situation. Then solve to answer the question.

9) A delivery person uses a service elevator to bring boxes of books up to an office. The delivery person weighs 160 lb and each box of books weighs 50 lbs. The maximum capacity of the elevator is 1000 lb. How many boxes of books can the delivery person bring up at one time?

10) Two college friends rent an apartment. They have to pay the landlord two months' rent and a \$500 security deposit when they sign the lease. The total amount they pay the landlord is \$2800. What is the rent for one month?

Solve each equation.

11) $20 = 6n + 4n$

12) $-8b - 4b = 0$

13) $195 = -5(1 - 8x)$

14) $280 = -2 + 6(6k + 5)$

$$15) 8 - 2m = 2 - 4m$$

$$16) 1 - 2v = -2 - 2v$$

$$17) -2x - 30 = -6x + 2(1 - 2x)$$

$$18) 6n - 4 = 2(4 + 2n)$$

Solve each proportion.

$$19) \frac{8}{10} = \frac{n}{6}$$

$$20) \frac{n+7}{10} = \frac{8}{2}$$

$$21) \frac{7}{m} = \frac{3}{m-10}$$

$$22) \frac{4}{2} = \frac{n+8}{n-6}$$

Set up a proportion for each situation. Then solve the proportion to answer the question.

23) A florist is making centerpieces. He uses 2 dozen roses for every 5 centerpieces. How many centerpieces can he make if he has 7 dozen roses?

24) A particular computer takes 15 minutes to download a 45-minute TV show. How long will it take the computer to download a 2 hour movie? (Hint: You need to convert everything into minutes before you start.)

Solve the Literal equation for the given variable:

25) $P = 2l + 2w$ Solve for w .

26) $3x - 5y = 45$ Solve for y .

Solving Equations Unit REVIEW

Date _____ Period _____

Solve each equation.

1) $-14 = \frac{r}{4}$

 $\{-56\}$

2) $n - 5 = -13$

 $\{-8\}$

3) $20 = m + 17$

 $\{3\}$

4) $-114 = 19p$

 $\{-6\}$

5) $6(v - 7) = -18$

 $\{4\}$

6) $7 = 8 + \frac{a}{15}$

 $\{-15\}$

7) $9 - 2x = 47$

 $\{-19\}$

8) $1 = \frac{b - 5}{4}$

 $\{9\}$

Define a variable, and then write an equation for each situation. Then solve to answer the question.

- 9) A delivery person uses a service elevator to bring boxes of books up to an office. The delivery person weighs 160 lb and each box of books weighs 50 lbs. The maximum capacity of the elevator is 1000 lb. How many boxes of books can the delivery person bring up at one time?

$b =$ the number of boxes of books. $50b + 160 = 1000$; He can bring 16 boxes at a time.

- 10) Two college friends rent an apartment. They have to pay the landlord two months' rent and a \$500 security deposit when they sign the lease. The total amount they pay the landlord is \$2800. What is the rent for one month?

$r =$ rent for one month.; $2r + 500 = 2800$; Rent is \$1150 per month.

Solve each equation.

11) $20 = 6n + 4n$

$\{2\}$

12) $-8b - 4b = 0$

$\{0\}$

13) $195 = -5(1 - 8x)$

$\{5\}$

14) $280 = -2 + 6(6k + 5)$

$\{7\}$

$$15) 8 - 2m = 2 - 4m$$

$$\{-3\}$$

$$16) 1 - 2v = -2 - 2v$$

No solution.

$$17) -2x - 30 = -6x + 2(1 - 2x)$$

$$\{4\}$$

$$18) 6n - 4 = 2(4 + 2n)$$

$$\{6\}$$

Solve each proportion.

$$19) \frac{8}{10} = \frac{n}{6}$$

$$\left\{ \frac{24}{5} \right\}$$

$$20) \frac{n+7}{10} = \frac{8}{2}$$

$$\{33\}$$

$$21) \frac{7}{m} = \frac{3}{m-10}$$

$$\left\{ \frac{35}{2} \right\}$$

$$22) \frac{4}{2} = \frac{n+8}{n-6}$$

$$\{20\}$$

Set up a proportion for each situation. Then solve the proportion to answer the question.

- 23) A florist is making centerpieces. He uses 2 dozen roses for every 5 centerpieces. How many centerpieces can he make if he has 7 dozen roses?

$$\frac{2}{5} = \frac{7}{x} \quad \text{So he can make 17.5 centerpieces (Really only 17!)}$$

- 24) A particular computer takes 15 minutes to download a 45-minute TV show. How long will it take the computer to download a 2 hour movie? (Hint: You need to convert everything into minutes before you start.)

$$\frac{15}{45} = \frac{x}{120} \quad \text{It would take 40 minutes to download a 2 hour movie.}$$

Solve the Literal equation for the given variable:

25) $P = 2l + 2w$ Solve for w .

$$\begin{aligned} P - 2l &= 2w \\ \frac{P - 2l}{2} &= w \end{aligned}$$

26) $3x - 5y = 45$ Solve for y .

$$\begin{aligned} -5y &= 45 - 3x \\ y &= \frac{45 - 3x}{-5} \end{aligned}$$

Since we don't like negatives in the denominator, I'm going to move it up!

$$y = -\frac{45 - 3x}{5}$$

or, distribute the negative, and get:

$$y = \frac{-45 + 3x}{5}$$