

# Unit 6 Take Home and Check - Tier A

1)  $b - 10 = 3$

$$\begin{array}{r} 1) \ b - 10 = 3 \\ \quad + 10 \quad + 10 \\ \hline \end{array}$$

$b = 13$

2)  $n - 8 = 24$

$$\begin{array}{r} 2) \ n - 8 = 24 \\ \quad + 8 \quad + 8 \\ \hline \end{array}$$

$n = 32$

3)  $h + 6 = 32$

$$\begin{array}{r} 3) \ h + 6 = 32 \\ \quad - 6 \quad - 6 \\ \hline \end{array}$$

$h = 26$

4)  $-25 = j + 5$

$$\begin{array}{r} 4) \ -25 = j + 5 \\ \quad - 5 \quad - 5 \\ \hline \end{array}$$

$-30 = j$

5)  $a + 11 = -14$

$$\begin{array}{r} 5) \ a + 11 = -14 \\ \quad - 11 \quad - 11 \\ \hline \end{array}$$

$a = -25$

$$6) -29 + b = -16$$

$$6) \begin{array}{r} -29 + b = -16 \\ +29 \quad +29 \\ \hline \end{array}$$
$$b = 13$$

$$7) -9 + r = 12$$

$$7) \begin{array}{r} -9 + r = 12 \\ +9 \quad +9 \\ \hline \end{array}$$
$$r = 21$$

$$8) 4s + 6 = -6$$

$$8) \begin{array}{r} 4s + 6 = -6 \\ -6 \quad -6 \\ \hline 4s = -12 \\ \hline s = -3 \end{array}$$

$$9) \frac{4}{5}y = -12$$

$$9) \begin{array}{r} \frac{4}{5}y = (-12) \frac{5}{4} \\ \cdot \frac{5}{4} \\ \hline y = -15 \end{array}$$

$$10) 22 = \frac{p}{3}$$

$$10) \begin{array}{r} \frac{3}{1} \cdot 22 = \frac{p}{3} \cdot \frac{3}{1} \\ \hline 66 = p \end{array}$$

11)  $-15n = 75$

11)  $\frac{-15n}{-15} = \frac{75}{-15}$   
 $n = -5$

12)  $16 = -\frac{4}{9}m$

12)  $16 = -\frac{4}{9}m$   
 $\frac{16}{1} \cdot \frac{-9}{4} = -36 = m$

13)  $\frac{8}{11}h = 16$

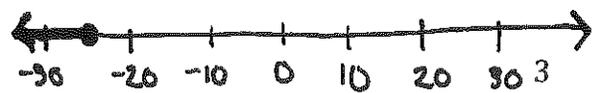
13)  $\frac{8}{8}h = 16 \cdot \frac{11}{8}$   
 $h = 22$

14)  $\frac{c}{5} = -20$

14)  $\frac{c}{5} = -20 \cdot 5$   
 $c = -100$

15)  $x + 7 \leq -18$

15)  $x + 7 \leq -18$   
 $-7 \quad -7$   
 $x \leq -25$



$$16) \quad 30 < 4b - 6$$



$$16) \quad \begin{array}{r} 30 < 4b - 6 \\ + 6 \\ \hline 36 < 4b \\ \frac{36}{4} < \frac{4b}{4} \\ 9 < b \end{array}$$



$$17) \quad -10 > n - 6.13$$



$$17) \quad \begin{array}{r} -10 > n - 6.13 \\ + 6.13 \\ \hline -3.87 > n \end{array}$$



$$18) \quad 6a < 18$$



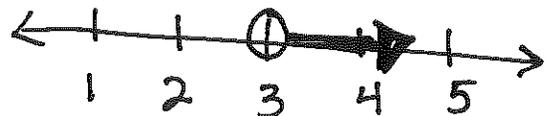
$$18) \quad \begin{array}{r} 6a < 18 \\ \frac{6a}{6} < \frac{18}{6} \\ a < 3 \end{array}$$



$$19) \quad 11k - 9 > 24$$



$$19) \quad \begin{array}{r} 11k - 9 > 24 \\ + 9 \\ \hline 11k > 33 \\ \frac{11k}{11} > \frac{33}{11} \\ k > 3 \end{array}$$



20) At the Boston Aquarium there is a fish tank which has 73 fish in it. There are 3 more than 4 times as many clown fish as goldfish. How many of each type of fish are there?

$$20) \text{ Let } x = \text{goldfish} = 14$$

$$3 + 4x = \text{clown} = 59$$

$$x + 3 + 4x = 73$$

$$5x + 3 = 73$$

$$\begin{array}{r} \underline{-3} \quad \underline{-3} \end{array}$$

$$5x = 70$$

$$\boxed{x = 14}$$

21) In the North Pole there are 70 male and female penguins, which were tagged. 30 more than 4 times the number of males were tagged than females. How many of each type were there?

$$21) \text{ Let } x = \text{females} = 8$$

$$4x + 30 = \text{males} = 62$$

$$x + 4x + 30 = 70$$

$$5x + 30 = 70$$

$$\begin{array}{r} \underline{-30} \quad \underline{-30} \end{array}$$

$$5x = 40$$

$$\boxed{x = 8}$$

- 22) The total weight of Sam and his son, Dan, is 100 pounds. Sam's weight is 10 pounds more than 3 times Dan's weight. How much does Dan weigh?

$$\text{Let } x = \text{Dan's} = 22.5 \text{ lbs.}$$
$$3x + 10 = \text{Sam's} = 77.5 \text{ lbs.}$$

$$x + 3x + 10 = 100$$

$$4x + 10 = 100$$
$$\begin{array}{r} -10 \\ \hline \end{array} \quad \begin{array}{r} -10 \\ \hline \end{array}$$

$$4x = 90$$

$$\boxed{x = 22.5}$$

- 23) Gina and Mary were paid \$46 for babysitting over the weekend. Gina made \$8 less than 6 times as much as Mary. How much did each girl make? (round your answers to the nearest cent.)

$$\text{Let } x = \text{Mary} = \$7.71$$
$$6x - 8 = \text{Gina} = \$38.26$$

$$x + 6x - 8 = 46$$

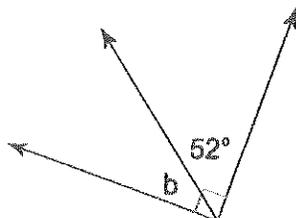
$$7x - 8 = 46$$
$$\begin{array}{r} +8 \\ \hline \end{array} \quad \begin{array}{r} +8 \\ \hline \end{array}$$

$$\frac{7x}{7} = \frac{54}{7}$$

$$x = \$7.71$$



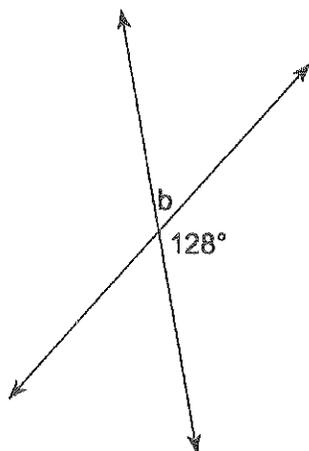
30) Solve for  $x$  and then tell the measure of each angle. What is the name of this angle relationship?



$$\begin{array}{r} 30) \quad b + 52 = 90 \\ \quad \quad -52 \quad -52 \\ \hline \quad \quad \quad b = 38^\circ \end{array}$$

because of complementary angles

31) Solve for  $x$  and then tell the measure of each angle. What is the name of this angle relationship?



$$\begin{array}{r} 31) \quad b + 128 = 180 \\ \quad \quad -128 \quad -128 \\ \hline \quad \quad \quad b = 52^\circ \end{array}$$

because of supplementary angles