

## 1.2 Practice Problems

Translate the verbal phrase into an expression.

1) 8 more than a number  $x$

$$x + 8$$

2) 50 divided by a number  $y$

$$\frac{50}{y}$$

3) The quotient of twice a number  $t$  and 12

$$\frac{2t}{12}$$

4) 5 more than 3 times a number  $w$

$$3w + 5$$

Write an expression for the situation.

5) Number of tokens needed for  $v$  video games if each game takes 4 tokens.

$$4v$$

6) Amount you spend if you buy a shirt for \$20 and jeans for  $j$  dollars

$$20 + j$$

7) Number of months in  $y$  years

$$12y$$

Find the unit rate in feet per second.

8)  $\frac{180 \text{ miles}}{2 \text{ hours}}$

$$\frac{1 \text{ hr}}{60 \text{ min}} \cdot \frac{1 \text{ min}}{60 \text{ sec}} \cdot \frac{5280 \text{ ft}}{1 \text{ mile}} = \frac{950400}{7200} = 132 \text{ ft/sec}$$

Describe and correct the error in the units.

9)  $9 \text{ yards} \cdot \frac{3 \text{ feet}}{1 \text{ yard}} \cdot \frac{\$2}{\text{foot}} = \$54$

feet cancelled should just be \$54.

Write an equation or an inequality

10) The sum of 42 and a number  $n$  is equal to 51.

$$42 + n = 51$$

11) The sum of 12 and the quantity 8 times a number  $k$  is equal to 48

$$12 + 8k = 48$$

12) The sum of a number  $b$  and 3 is greater than 8 and less than 12.

$$8 < b + 3 < 12$$

13) Write an inequality for the price  $p$  (in dollars) described.



$$p \leq 10$$

Describe and correct the error in writing the verbal sentence as an equation or an inequality.		
14) The quotient of a number $t$ and 4.2 is at most 15.		
$\frac{t}{4.2} \leq 15$ at most means $\leq$ $\frac{t}{4.2} \leq 15$		
Check whether the given number is a solution of the equation or inequality.		
15) $9 + 4y = 17; 1$	16) $\frac{r}{3} - 4 = 4, 12$	
$9 + 4(1) = 17$ $9 + 4 = 17$ $13 \neq 17$ <u>NO</u>	$\frac{12}{3} - 4 = 4$ $4 - 4 = 4$ $0 = 4$ <u>NO</u>	
17) $y - 3.5 < 6; 9$	18) $4z - 5 < 3; 2$	
$9 - 3.5 < 6$ $5.5 < 6$ <u>Yes</u>	$4(2) - 5 < 3$ $8 - 5 < 3$ $3 < 3$ <u>NO</u>	
Solve the equation using mental math.		
19) $y + 16 = 25$	20) $8b = 72$	
<u><math>y + 16 = 25</math></u>	<u><math>8(9) = 72</math></u>	
Skill Review		
Plot the points: 1) $(-3, 4)$ , 2) $(5, 0)$	Simplify: 3) $\frac{7-3}{-20-(-2)}$	Simplify: 4) $(-2)^3 + 2(4)$
	$\frac{4}{-20+2} = \frac{4}{-18} = -\frac{2}{9}$	$-8 + 8 = 0$
	5) $\frac{1-6}{-10-2}$	6) $[5 - (2-4)]^2 - 8/2$
	$\frac{-5}{-12} = \frac{5}{12}$	$[5 - (-2)]^2 - 4$ $[5+2]^2 - 4$ $7^2 - 4$ $49 - 4 = 45$