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 $\dfrac{50}{y}$
3) The quotient of twice a number t and 12 $\dfrac{2t}{12}$	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. $4g$	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) $\dfrac{180 \text{ miles}}{2 \text{ hours}} \cdot \dfrac{1 \text{ hr}}{60 \text{ min}} \cdot \dfrac{1 \text{ min}}{60 \text{ sec}} \cdot \dfrac{5280 \text{ ft}}{1 \text{ mile}} = \dfrac{950400}{7200}$

$$= 132 \text{ ft/sec}$$

Describe and correct the error in the units.

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

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.	11) The sum of 12 and the quantity 8 times a number k is equal to 48	12) The sum of a number b and 3 is greater than 8 and less than 12.
$42 + n = 51$	$12 + 8k = 48$	$8 < b + 3 < 12$

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

Sale!
Nothing over $10!

$p \le 10$

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.

$\dfrac{t}{4.2} > 15$ at most means $\leq$ $\dfrac{t}{4.2} \leq 15$

Check whether the given number is a solution of the equation or inequality.

15) $9 + 4y = 17;\ 1$

$9 + 4(1) = 17$

$9 + 4 = 17$

$13 \neq 17$

NO

16) $\dfrac{r}{3} - 4 = 4;\ 12$

$\dfrac{12}{3} - 4 = 4$

$4 - 4 = 4$

$0 = 4$ NO

17) $y - 3.5 < 6;\ 9$

$9 - 3.5 < 6$

$5.5 < 6$

Yes

18) $4z - 5 < 3;\ 2$

$4(2) - 5 < 3$

$8 - 5 < 3$

$3 < 3$ NO

Solve the equation using mental math.

19) $y + 16 = 25$

$9 + 16 = 25$

20) $8b = 72$

$8(9) = 72$