

LEVEL: EMERGING

Directions: Write the equation or inequality.

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|---|---|---|
| 1) The difference of 5 times a number h and 1.2 is 4. | 2) The quotient of 30 and 5 times a number k is greater than or equal to 5. | 3) A number 2 is increased by a number squared is less than 20. |
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Directions: Check whether the given number is a solution to the equation or inequality.

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|---------------------------|-----------------------------------|-----------------------------|
| 4) $4b - 1 = 9$; $b = 3$ | 5) $\frac{10n}{3} < 14$; $n = 3$ | 6) $12 < y^2 + 3$; $y = 3$ |
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LEVEL: PROFICIENT

Directions: Write the equation or inequality.

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| 7) Twice the quantity of $\frac{1}{4}$ decreased by a number x is 8. | 8) The sum of 5 and 3 times a number n is at least 20. | 9) 12 decreased by the quotient of 10 and twice a number n is 14. |
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Directions: Write an equation from the given phrases. .

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| 10) The number of minutes in h hours if the total number of minutes is 240 min. | 11) The total cost of dinner was \$77.20 and you paid \$56.40 for dinner and t dollars for the tip. |
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| 12) Describe and correct the error in writing the verbal phrase as an inequality. | 13) Check whether the given number is a solution to the following inequality. |
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"The sum of a number and 4 is no more than 15"

Answer: $n + 4 < 15$

$$17 - 4y \geq 1 ; y = 4$$

LEVEL: MASTERY

14) Which equation corresponds to the verbal phrase?

"Twice a number n subtracted from 30 is 22."

- (a) $n^2 - 30 = 22$
- (b) $30 - n^2 = 22$
- (c) $2n - 30 = 22$
- (d) $30 - 2n = 22$

15) (a) You buy a storage unit that holds 40 CD's. You currently have 27 CD's. Write an inequality that describes how many more CD's you can buy (no more CD's than the rack can hold).

(b) Then you buy 15 CD's. Will they all fit? Justify!

16) You and your 3 friends mow a neighbor's lawn in the summer for some extra cash. You decide to split the pay equally. If everyone gets \$30, how much did the neighbor pay?

17) The longest side of a rectangle is x in. long and the shorter side is 2 in. smaller. If the perimeter of the rectangle is 30 inches, write an equation that represents the perimeter.

18) A rule of thumb states that the ideal weight (in ounces) of a baseball bat for a high school player is 5 more ounces than one third of the player's height (in inches).

a) Write an expression that describes the ideal weight w of a bat for a player who is h inches tall.

b) One player was 67 inches tall last year. This year the player is 70 inches tall. How much heavier should the player's new bat be?

19) You collect miniature cars and display them on shelves that hold 20 cars each.

a) Which expression would you use to find the number of shelves you need for x cars, $\frac{x}{20}$ or $\frac{20}{x}$? Justify your answer!

b) Find the number of shelves you need to display 120 cars.

Worksheet 1.4B Answers

1) $5h - 1.2 = 4$

2) $\frac{30}{5k} \geq 5$

3) $2 + n^2$

4) NO

5) YES

6) NO

7) $2\left(\frac{1}{4} - x\right) = 8$

8) $5 + 3n \geq 20$

9) $12 - \frac{10}{2n} = 14$

10) $60h = 240$

11) $77.20 = 56.40 + t$

12) Answers may vary

13) YES

14) D

15) a) $27 + c \leq 40$ b) NO

16) \$120

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

18) A) $w = \frac{1}{3}h + 5$ B) 1 oz

19) A) $\frac{x}{20}$ B) 6