

1.1-1.3 Quiz Review

Name:

Date:

Period:

Vocabulary: Given the list of numbers below, place each number in the correct category or categories:

$$\sqrt{30}, \frac{17}{3}, 6, -13, 0, -\frac{135}{3}$$

1. Whole numbers: 6
2. Integers: -13, 0, 6
3. Rational numbers: $-\frac{135}{3}, \frac{17}{3}, 6, -13, 0$
4. Irrational numbers: $\sqrt{30}$

Properties of Real Numbers

5. Identify the property shown: *Associative property of addition*

$$(4+6) + 3 = 4 + (6 + 3)$$

6. Identify the property shown: *Distributive property*

$$4(3 - 2) = 4 \cdot 3 - 4 \cdot 2$$

Evaluating Expressions

7. Evaluate $2x - (3x + 1)$ when $x = \frac{1}{2}$


$$\begin{aligned} 2x - 3x - 1 \\ 2\left(\frac{1}{2}\right) - 3\left(\frac{1}{2}\right) - 1 \\ \frac{2}{2} - \frac{3}{2} - 1 \\ -\frac{1}{2} - \frac{2}{2} \\ -\frac{3}{2} \end{aligned}$$

8. Evaluate $x^2 - 2x + 3$ when $x = -2$

$$(-2)^2 - 2(-2) + 3$$

$$4 + 4 + 3$$

$$8 + 3$$


Simplifying Expressions

9. Simplify: $\underline{4x} - \underline{3y} - 4 + \underline{6x} - \underline{2y}$

$$4x + 6x - 3y - 2y - 4$$

$$\boxed{10x - 5y - 4}$$

10. Simplify: $3(3x + x) - 4(x^2 + 2x)$

First Way ↑ distribute first

$$9x + 3x - 4x^2 - 8x$$

2nd way

$$12x - 4x^2 - 8x$$

$$\boxed{4x - 4x^2}$$

11. You are buying a total of 6 notebooks for class. Some of the notebooks are regular size and some are jumbo. Regular-sized notebooks cost \$1.89 each and jumbo notebooks cost \$3.49 each. Write an expression for the total amount you spend on notebooks.

~~$6 = 1.89r + 3.49j$~~

$$\boxed{6 = 1.89r + 3.49j}$$

Solve the following equations:

$$12. \begin{array}{r} 3x + 7 = 22 \\ -7 \quad -7 \end{array}$$

$$3x = 15$$

$$\boxed{x = 5}$$

$$13. \begin{array}{r} \frac{2}{3}x + 5 = 0 \\ -5 \quad -5 \end{array}$$

$$\frac{2}{3}x = -5$$

$$x = -5 \cdot \frac{3}{2} = \boxed{\frac{-15}{2} = x}$$

$$14. \begin{array}{r} 2y + 5 = -7y + 32 \\ +7y \quad +7y \end{array}$$

$$\begin{array}{r} 9y + 5 = 32 \\ -5 \quad -5 \end{array}$$

$$\frac{9y}{9} = \frac{27}{9}$$

$$\Rightarrow \boxed{y = 3}$$

$$15. 0.2(x - 10) = 0.6x - 14$$

$$\begin{array}{r} .2x - 2 = .6x - 14 \\ -.2x \quad -.2x \end{array}$$

$$-2 = .4x - 14$$

$$\begin{array}{r} -2 = .4x - 14 \\ +14 \quad +14 \end{array}$$

$$\frac{12}{.4} = \frac{.4x}{.4}$$

$$\boxed{30 = x}$$