

Cumulative Review 11/20

Name: _____

1) Consider these numbers:

- $\sqrt{50}$ $3.4\overline{56}$ 0 $\sqrt{\frac{4}{9}}$ 0.38 $\sqrt{81}$ 2π $\sqrt{1.69}$ $\sqrt{\frac{2}{9}}$

A Write each of the numbers in the list above in the correct box.

Rational Numbers	Irrational Numbers

12) Illustrate: Show that $0.\overline{74}$ is equivalent to a fraction. Is $0.\overline{74}$ a rational or irrational number? Explain.

13) $3^3 x^2 \cdot 4x^5 =$
 A $108x^{10}$
 B $108x^5$
 C $108x^7$
 D $12x^{10}$

14) $3^2 \cdot 3^{-3} =$
 A 9^{-6}
 B $\frac{1}{3}$
 C $\frac{1}{9}$
 D 3

15) $8y^{-2} =$
 A $\frac{1}{8y^2}$
 B $6y$
 C $-16y$
 D $\frac{8}{y^2}$

2) Which equation has exactly one solution?
 A. $\frac{1}{5}x + 13 + x = -\frac{1}{10}(x + 40) + 4$
 B. $4x - 4 + x = 2(3x - 2) - x$
 C. $2(4x + 5) - 10 = 4(2x - 3) + 12$
 D. $2.5(2x - 4) = 4(x - 4) + x$

16) What is the solution to the following?
 $4(x - 1) - 3x = -2x - 4 + 3x$
 A. $x = -4$
 B. $x = 0$
 C. no solution
 D. infinite solutions

17) Simplify: $(3^4)^2$ 18) Write using exponents: $4a \times 4a \times 4a$

3) **EXPLAIN** In your own words, explain what it means when a solution to an equation in one variable results in an inequality, such as $3 \neq 4$.

19) Determine the slope and y-intercept from each table of coordinates. Then write an equation and explain how you found the information to determine the equation.

x	y
0	-7
2	-3
4	1
6	5

Slope: _____
 y-intercept: _____
 Equation: _____

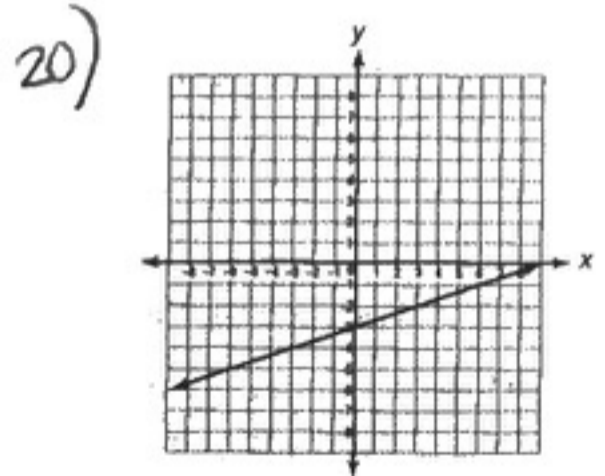
21) Which ordered pair represents a point that would lie on the graph of $y = 4x - 10$?
 A. $(4, -10)$
 B. $(4, 6)$
 C. $(-4, 6)$
 D. $(-4, 10)$

22) Which is the equation of a line that intersects the y-axis at 2 and has a slope of -2?
 A. $y = 2x - 2$
 B. $y = -2 + 2$
 C. $2y = -2x + 2$
 D. $y = -2x + 2$

Match the algebraic and verbal forms.

- 4) $x + \frac{4}{5} = 20$
 5) $\frac{x}{5} + 4 = 20$
 6) $\frac{x+4}{5} = 20$
 A. the sum of x and 4, divided by 5 is 20
 B. x added to the quotient of 4 and 5 is 20
 C. four more than x divided by 5 is 20

- 7) $5t + 1 = 35$
 8) $5(t + 1) = 35$
 9) $5t = 35$
 A. one more than five times t is 35
 B. five times the sum of t and 1 is 35
 C. the product of five and t is 35



Slope: _____
 y-intercept: _____

23) **CONSTRUCT** Write the equation of a line that passes through points $(4, 3)$ and $(8, 2)$. Describe the steps you took to form the equation.

10) Momentum can be calculated by multiplying mass and speed. Which is the momentum of an object with a mass of 3.3×10^4 kg traveling at a speed of 3.2×10^3 m/s?

Express each product or quotient in scientific notation. Then check your answer with your calculator, explaining the calculator display.

24) $(2.5 \times 10^8)(1.2 \times 10^7)$

25) $(8.25 \times 10^6) \div (1.5 \times 10^{-3})$

11) A computer can perform 4.5×10^2 instructions in a second. Which expression shows how long it would take to perform 1.8×10^{10} instructions?