INDIVIDUAL 2018 School _____

Solve each equation.

1) $|r+7|-8=7$

Simplify each expression.

2) $\dfrac{3(x-1)(2x-3)}{6(x-1)(x-5)} \div \dfrac{2x-3}{4x(x-5)}$

Find each quotient. Answer should be written as an integer or simplified fraction.

3) $\dfrac{-\frac{5}{3}}{\frac{13}{4}}$

Solve each equation for the indicated variable.

4) $z = ma - b$, for a

Solve each equation.

5) $-11(12n+2) = 2(-3n-11)$

Solve each proportion. Give the answer as an integer or simplified fraction.

6) $\dfrac{m+2}{9} = \dfrac{m+3}{3}$

Solve each equation. Remember to check for extraneous solutions.

7) $\dfrac{1}{3x} + \dfrac{1}{6x^2} = \dfrac{x+4}{6x^2}$

Simplify. Your answer should contain only positive exponents.

8) $\dfrac{(-2a^4b^2)^4}{2a^3b^0 \cdot a^3b^4}$

Factor each completely.

9) $10n^2 + 66n - 112$

Solve each inequality.

10) $-6(1 + 2b) > -38 + 4b$

Find the slope of the line through each pair of points.

11) $(-19, 20), (-11, 20)$

Find each product.

12) $(-7x - 7)(-2x - 8)$

Simplify.

13) $3\sqrt{12} + 2\sqrt{18} + 2\sqrt{27}$

Solve the system. Answer must be written as an ordered pair.

14) $10x - 8y = -24$
$2x + 2y = 24$

Solve each equation. Remember to check for extraneous solutions.

15) $n - 7 = \sqrt{2n - 11}$

16) Twice the greater of two consecutive odd integers is 13 less than three times the lesser number. Find the integers.

17) Write an equation of a line perpendicular to the x-axis that contains the point (7, -3).

18) A chemistry experiment calls for a 30% solution of copper sulfate. Kendra has 40 milliliters of 25% solution. How many milliliters of 60% solution should she add to obtain the required 30% solution? Give the answer in integer or mixed number form.

19) Write the equation of the line (in slope-intercept form) that is perpendicular to the line through (9, 10) and (3, -2) and passes through the x-intercpet of that line.

20) Solve the inequality. Negative four times a number plus nine is no more than the number minus twenty-one.