

PROBLEMS

ANSWERS

Write in notation form. 1. The product of 2 and x is equal to the difference of 9 and x.	1.
2. Give the opposite, reciprocal, and absolute value of $-\frac{2}{3}$.	2. opposite: reciprocal: absolute value:
3. Simplify: $40 - 8 \div 2 - 3^2$	3.
4. Add: $-15 + (-3)$	4.
5. Subtract: $-7 - 29$	5.
6. Simplify: $6 - 5 - 9 - 11$	6.
7. Multiply: $-10(7)(-4)$	7.

8. -5^2	8.
9. Simplify: $-3(-2)^2 - 5(-3)^3$	9.
10. Simplify: $\frac{-3(-4-6) - 4(6-4)}{-4-2-5}$	10.
11. Simplify: $32 - [-(8-5) - 11] - 12$	11.
For problems 12 and 13, apply the distributive property. 12. $7(3x+6)$	12.
13. $-\frac{2}{5}(15x-9)$	13.

14. List the irrational numbers: $\{-3, -2.1, \sqrt{2}, \pi\}$	14.
15. Factor into the product of primes. 168	15.
16. Simplify: $\frac{340}{510}$	16.
17. For problems 17-20, do the operation indicated on the fraction. $\frac{1}{13} - \frac{6}{13} - \frac{11}{13}$	17.
18. $\frac{2}{3} + \frac{3}{4} - \frac{1}{6}$	18.
19. $\frac{11}{60} - \frac{13}{84}$	19.
20. $\frac{2}{a} + \frac{5}{a} - \frac{1}{a}$	

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Simplify: 1. $20 - [-(10 - 3) - 8] - 7$	1.
Find the value of the expression when a is -2 . $8 - 6(3a - 1)$	2.
3. Simplify: $13x - 7 - 17x + 1$	3.
4. Simplify: $6 - 2(4m + 2) - 5$	4.
For problems 5 –10, solve the linear equations. 5. $4x - 3 = 8x + 5$	5.
6. $\frac{1}{2}x + \frac{1}{6} = \frac{1}{3}x - 1$	6.

7. $7 - 3(y + 4) = 10$	7.
8. $\frac{3}{4}(8x - 12) = \frac{1}{2}(4x + 4)$	8.
9. $18 = 3(2x - 2)$	9.
10. $3(5x - 1) = 6(2x + 3) - 21$	10.
11. Solve the following equation. Find y if x is (-5) . $4x - 5y = 20$	11.
Solve the following formula for the indicated variable. 12. $V = \pi r^2 h$ for h	12.

<p>For problems 13-15, solve the inequalities and graph the solution to the problem.</p> <p>13. $8 - 2x \geq 0$</p> <p><i>graph</i> _____</p>	<p>13.</p>
<p>14. $-0.3x + 0.7 < -2$</p> <p><i>graph</i> _____</p>	<p>14.</p>
<p>15. $2(3m + 1) + 6 > 5(2m + 4)$</p> <p><i>graph</i> _____</p>	<p>15.</p>
<p>16. $-4 < 6x + 1 < 7$</p> <p><i>graph</i> _____</p>	<p>16.</p>

For the in class test, be sure to show all work.

For problems 1-3, graph the equation. Carefully label the graph.

1. $3x + y = 2$

2. $y = -\frac{3}{4}x - 2$

3. $y = -3$

Problems:

Answers:

4. Write the equation of the line with a slope of $\frac{3}{5}$ and a y intercept of -4.

4. _____

5. Find the slope of the line through (4, -2) and (-7, 8)

5. _____

6. Write the equation of the line passing through (3, -7) and (-3, 1)

6. _____

7. Solve the system by graphing.

$$\begin{cases} 4x - 2y = 8 \\ y = -3x + 6 \end{cases}$$

8. Solve the system by the elimination method.

$$\begin{cases} -2x + 5y = -11 \\ 7x - 3y = -5 \end{cases}$$

8. _____

9. Solve the system by the elimination method.

$$\begin{cases} x - y = 1 \\ -x - y = -7 \end{cases}$$

9. _____

10. Solve the system by the substitution method.

$$\begin{cases} x - y = -2 \\ y = -2x - 10 \end{cases}$$

10. _____

11. Solve the system by the substitution method.

$$\begin{cases} y = 3x - 2 \\ -6x + 2y = -4 \end{cases}$$

11. _____

12. a. Write the following equation in standard form of a line.

$$y = -5x + 3$$

12. a. _____

b. _____

b. Is the slope of the line negative or positive?

Graph the following inequality.

13. $y \leq 2x - 3$

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<p>For problems 1-3, simplify. Write the answer with positive exponents only.</p> <p>1. $\left(\frac{3}{7}\right)^2$</p>	1.
<p>2. $(2a^3b^2)^3(3a^5b^6)^3$</p>	2.
<p>3. $\frac{y^4}{y^{-8}}$</p>	3.
<p>4. Write the following in scientific notation. 0.00314</p>	4.
<p>Write the following in expanded form.</p> <p>5. 3.46×10^7</p>	5.

<p>For problems 6-9, simplify . Write the answer with positive exponents only.</p> <p>6. $\frac{(7x^3y^5)(5x^2y^6)}{(10xy^3)(7x^9y)}$</p>	6.
<p>7. $5y^{-7}$</p>	7.
<p>8. $\frac{21a^{10}}{3a^4} - \frac{18a^{17}}{6a^{11}}$</p>	8.
<p>9. $\frac{(9 \times 10^3)(5 \times 10^{-2})}{6 \times 10^{-4}}$</p>	9.
<p>10. Subtract.</p> $(-7x^2 + 2x - 6) - (8x^2 - 4x + 7)$	10.
<p>11. Find the value of the following expression when</p> <p>x is a (-3).</p> $4x^2 - 2x + 1$	11.

For problems 12-16, multiply. 12. $5xy^2(3x^3 + 4x^2y + 10xy^2)$	12.
13. $\left(x + \frac{1}{3}\right)\left(x + \frac{1}{4}\right)$	13.
14. $(a-2)(a^2 - 6a + 7)$	14.
15. $(a-6)^2$	15.
16. $(3x+5)(3x-5)$	16.
For problems 17-18, divide. 17. $\frac{6x^2a + 12x^2b - 6x^2c}{36x^2}$	17.
18. $\frac{2x^2 - 7x + 12}{x + 2}$	18.