

Math 2 Basic Summer Work

Directions: Evaluate each expression.

1) $(-2) + 3$

2) $(-14) + (-7)$

3) $3 - (-8)$

4) $(-9) + 14$

5) $(-8) - (-2)$

6) $5 + (-8)$

7) $(-27) - 24$

8) $(-41) + (-40)$

9) $38 - (-17)$

10) $(-44) + (-9)$

11) $(-16) - (-36)$

12) $(-6) - 24$

13) $(-16) - 6 + (-5)$

14) $15 - 13 + 2$

15) $16 - (-13) - (-5)$

16) $(-7) - (-2) - 9$

$$17) (-11) - (-14) + 7$$

$$18) 7 + (-1) + 12 - 7$$

$$19) 6 + (-7) + (-5) - (-2)$$

$$20) (-3) + 5 + (-5) + 12$$

$$21) (-11) - 8 + 1 - (-6)$$

$$22) 10 - (-10) - 7 - 5$$

$$21) -11 \times 9$$

$$22) -7 \times -12$$

$$23) -8 \times -11$$

$$24) -6 \times 4$$

$$25) -3 \times -11$$

$$26) -5 \times -9$$

$$27) 9 \times -7$$

$$28) -9 \times -3$$

$$29) 12 \times -12$$

$$30) 11 \times -6$$

$$31) 6 \times -5 \times 3$$

$$32) 6 \times -1 \times 2$$

$$33) 8 \times -6 \times -3$$

$$34) -3 \times 6 \times -6$$

1) $\frac{10}{5}$

2) $\frac{-24}{12}$

3) $\frac{-20}{-2}$

4) $\frac{-300}{-20}$

5) $\frac{65}{5}$

6) $\frac{-66}{-6}$

7) $\frac{75}{-15}$

8) $\frac{-56}{-14}$

9) $\frac{102}{-17}$

10) $\frac{-72}{-4}$

Directions: Fill in the blanks.

- When multiplying two positive numbers together, the result is _____.
- When multiplying a positive number and a _____, the result is negative.
- When multiplying two negative numbers together, the result is _____.
- When dividing a _____ and a negative number, the result is positive.
- When dividing two positive numbers, the result is _____.
- When dividing a positive number and a negative number, the result is _____.

Directions: Evaluate each expression.

1) $\frac{5}{4} - \frac{3}{4}$

2) $\frac{3}{2} - \frac{1}{2}$

3) $\frac{2}{5} + \frac{4}{5}$

4) $\frac{1}{3} - \frac{1}{3}$

5) $6 - \frac{1}{6}$

6) $\frac{1}{2} - \frac{1}{2}$

7) $\frac{1}{5} + \frac{1}{5}$

8) $\frac{7}{6} - \frac{5}{6}$

9) $\left(-\frac{4}{5}\right) - \frac{7}{8}$

10) $\frac{1}{3} - \left(-\frac{5}{3}\right)$

11) $\left(-\frac{1}{3}\right) + \frac{3}{8}$

12) $\left(-\frac{10}{7}\right) + \frac{1}{6}$

$$1) -\frac{5}{4} \cdot \frac{1}{3}$$

$$2) \frac{8}{7} \cdot \frac{7}{10}$$

$$3) \frac{4}{9} \cdot \frac{7}{4}$$

$$4) -\frac{2}{3} \cdot \frac{5}{4}$$

$$11) \frac{-1}{5} \div \frac{7}{4}$$

$$12) \frac{-1}{2} \div \frac{5}{4}$$

$$13) \frac{-3}{2} \div \frac{-10}{7}$$

$$14) \frac{1}{2} \div \frac{8}{7}$$

$$1. \frac{\left(\frac{2}{3}\right)}{4}$$

$$4. \frac{\frac{2}{11}}{10}$$

$$2. \frac{\frac{4}{5}}{\frac{10}{3}}$$

$$5. \frac{\frac{6}{13}}{\frac{12}{5}}$$

$$3. \frac{\frac{6}{7}}{8}$$

$$6. \frac{\left(\frac{3}{8}\right)}{14}$$

Order these fractions from SMALLEST to largest.

1. $\frac{3}{4}, \frac{3}{7}, \frac{2}{3}$

2. $\frac{1}{7}, \frac{3}{14}, \frac{3}{28}$

Order these fractions from LARGEST to smallest.

1. $\frac{8}{11}, \frac{3}{4}, \frac{13}{22}$

2. $\frac{7}{8}, \frac{35}{64}, \frac{5}{16}$

Directions: Solve each expression for the given variable.

a) $5x + 1 = 31$

b) $3x - 1 = 8$

c) $7x = 60 + 2x$

d) $3x = 72 - 3x$

e) $6x + 4 = 20 - 2x$

f) $6x + 3 = 23 + x$

g) $5x + 4 = 2x + 17$

h) $5x + 11 = 20x - 64$

i) $28 - x = 17 + 3x$

a) $5(x + 2) = 25$

b) $2(2x + 10) = 40$

c) $3(2x - 5) = 21$

d) $4(5x - 3) = 7(2x + 3)$

e) $3(4 + x) = 5(10 + x)$

f) $2(3x - 4) = 4x + 3$

$$13) -18 - 6k = 6(1 + 3k)$$

$$14) 5n + 34 = -2(1 - 7n)$$

$$15) 2(4x - 3) - 8 = 4 + 2x$$

$$16) 3n - 5 = -8(6 + 5n)$$

$$17) -(1 + 7x) - 6(-7 - x) = 36$$

$$18) -3(4x + 3) + 4(6x + 1) = 43$$

$$19) 24a - 22 = -4(1 - 6a)$$

$$20) -5(1 - 5x) + 5(-8x - 2) = -4x - 8x$$

Directions: Solve each proportion for the given variable.

$$13) \frac{4}{n+2} = \frac{7}{n}$$

$$14) \frac{n}{n-3} = \frac{2}{3}$$

$$15) \frac{x-3}{x} = \frac{9}{10}$$

$$16) \frac{5}{r-9} = \frac{8}{r+5}$$

$$17) \frac{p+10}{p-7} = \frac{8}{9}$$

$$18) \frac{2}{8} = \frac{n+4}{n-4}$$

$$19) \frac{n-5}{n+8} = \frac{2}{7}$$

$$20) \frac{n-6}{n-7} = \frac{9}{2}$$

For questions 1-5 fill in the blank with the answer that best fits the situation.

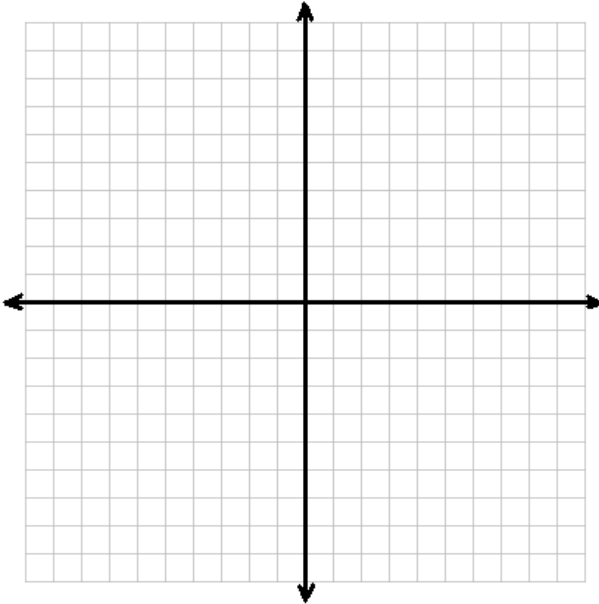
1. The point with coordinates $(0, 0)$ is called the _____.
2. The point $(-4, 2)$ lies in quadrant _____.
3. If two lines have the same slope, they are said to be _____.
4. The point $(-6, 0)$ lies on the _____.
5. To plot the point $(-4, 7)$, we start at the origin, then move 4 units _____,
and then 7 units _____.

For questions 6-10 state whether the statement is true or false, if false, explain why.

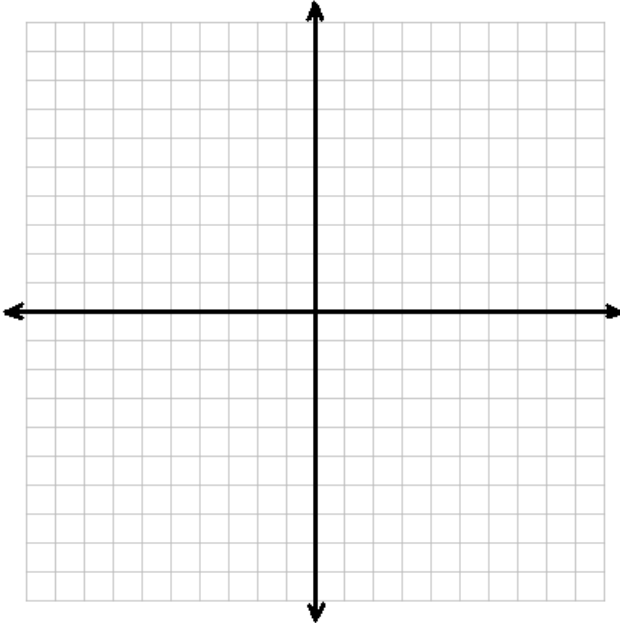
6. A horizontal line has an undefined slope. _____
7. A line has a positive slope when it rises from left to right. _____
8. Quadrant Four contains only negative points. _____
9. The point given in the equation $y + 8 = 2(x - 1)$ is $(-1, 8)$. _____
10. Y-intercepts are points that lie on the y-axis and always have an x-value of zero. _____

For questions 11-14, graph the given equations. Make sure to show all work and that I can clearly see the points you are drawing through.

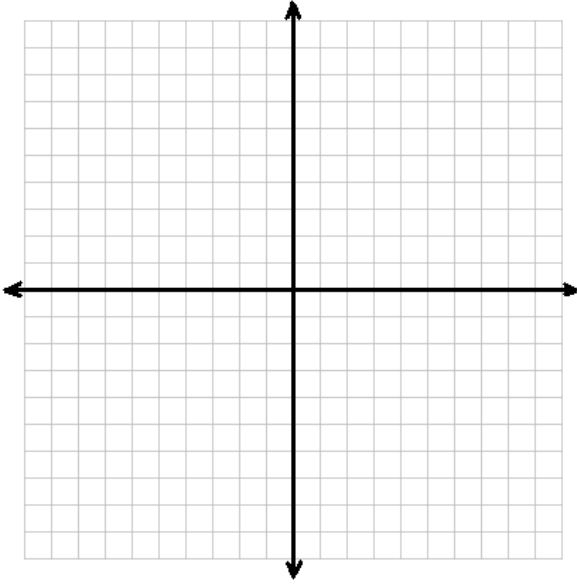
11. $y = -3x + 4$



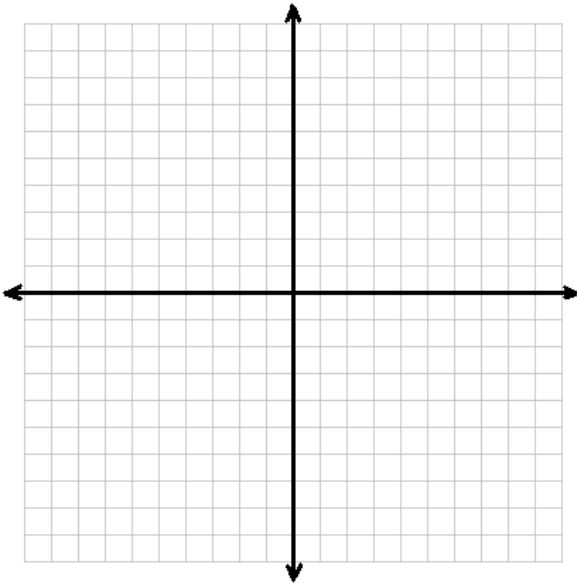
12. $y = 9$



13. $y + 2 = \frac{4}{3}(x - 2)$



14. $y = \frac{x}{2} - 1$



For 15-22, write the equation of the line based on the information provided. Remember to use your best judgment when picking the type of equation and show any necessary work.

15. A line passing thru (10, -2) with a slope of $\frac{-1}{3}$

16. A line passing thru (0, 9) with a slope of 5

17. A line perpendicular to $y = -8x - 1$ and passing thru (9, -13)

18. A line with no slope passing thru (17, -23)

19. A line parallel to $x = -5$ and passing thru (19, -1)

20. A line passing thru (8, 7) and (-6, 4)

21. A line passing thru (22, -11) and is parallel to $y - 2 = -\frac{1}{12}(x + 12)$

22. A line passing thru (18, -6) and perpendicular to $x = 42$

Directions: Find the x and y intercepts given the following information.

7. $4x + y = -8$

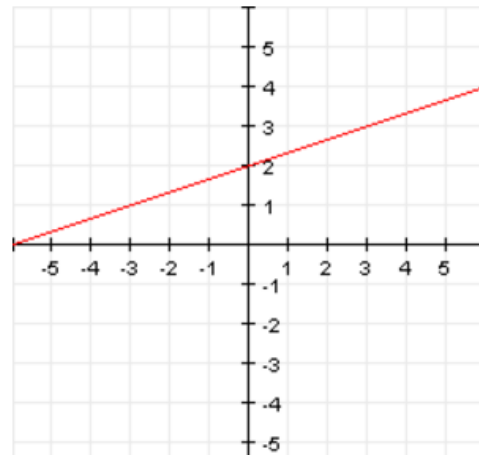
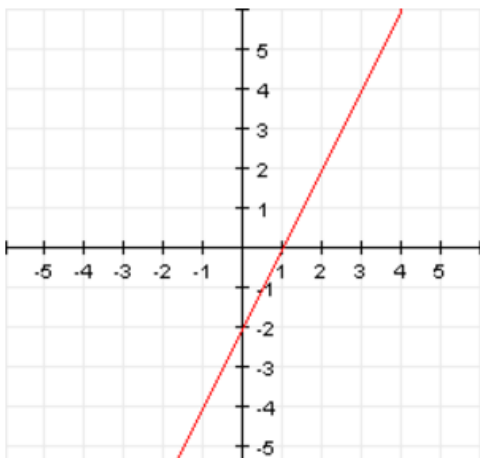
8. $x - 2y = -10$

9. $6x + 4y = 12$

10. $x - 9y = -45$

11. $2x - 6y = 18$

12. $7x + 5y = 42$



Direction: Factor each expression completely.

1. $-2x^2y^3z - 4xy^3z + 6x^3y^2z^4$

7. $21a^3 - 84a^2 + 15a - 60$

2. $-5a^2b^3c + 15a^3b^4c^2 - 25a^4b^3c$

8. $56xy - 35x + 16ry - 10r$

3. $a^2 - a - 90$

9. $21ab + 15a + 35cb + 25c$

4. $4x^2 - 4x - 8$

10. $5a^2z - 4a^2c + 15xz - 12xc$

5. $a^2 - 7a + 1$

11. $4xy + 6 - x - 24y$

6. $-7x^4y^3z^5 + 49x^5y^4z^5 - 28x^4y^5z^8$

12. $6ax - 14x + 15a - 35$

$$13. 6b^4 + 5b^3 - 24b - 20$$

$$18. abx - ab^2x + abx^2$$

$$14. x^3y^2 - 2x^2y^2 + 3xy^2 - 6y^2$$

$$19. 6x^2y^4z^5 - 8xy^3z^8 + 12x^3y^2z^2$$

$$15. 2x^3z - 4x^2z + 32xz - 64z$$

$$20. 8a^2b^2 - 24ab^2c + 9b^2c^2$$

$$16. 5x + ry + rx + 5y$$

$$21. 6x^2 + 66x + 60$$

$$17. 2x - 4y + 8z$$

$$22. 2x^2 + 7x + 3$$

$$23. 3x^2 + 10x + 3$$

$$27. 3a^2 - 8a + 4$$

$$24. 3x^2 - 2x - 5$$

$$28. 15a^2 - 27a - 6$$

$$25. 2a^3b - 242ab^3$$

$$29. 81x^4 - 900x^2$$

$$26. x^4 - 81$$

$$30. 2a^2x^3y - 8b^2xy$$