Math 2 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) -11×9

22) -7×-12

23) -8×-11

24) -6×4

25) -3×-11

26) -5×-9

27) 9×-7

28) -9×-3

29) 12×-12

30) 11×-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.

a. When multiplying two positive numbers together, the result is _____.

b. When multiplying a positive number and a _____, the result is negative.

c. When multiplying two negative numbers together, the result is _____.

d. When dividing a _____ and a negative number, the result is positive.

e. When dividing two positive numbers, the result is _____.

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

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

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

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

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

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. _____

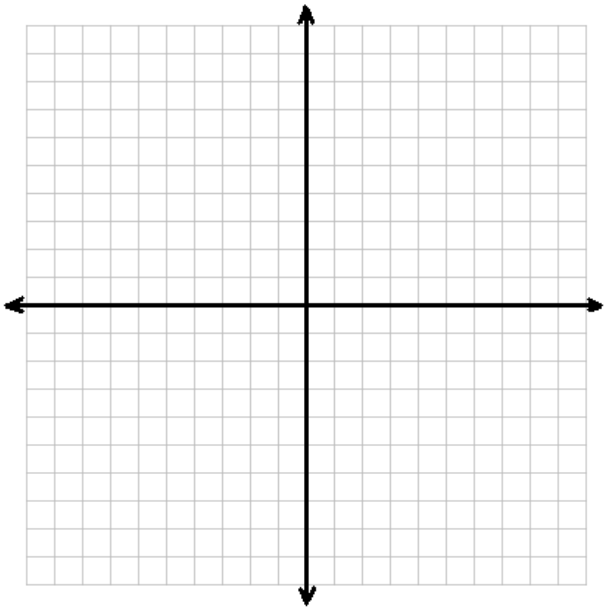
8. Quadrant Four contains only negative points. _____

9. The point given in the equation $y + 8 = 2(x - 1)$ is (-1, 8). _____

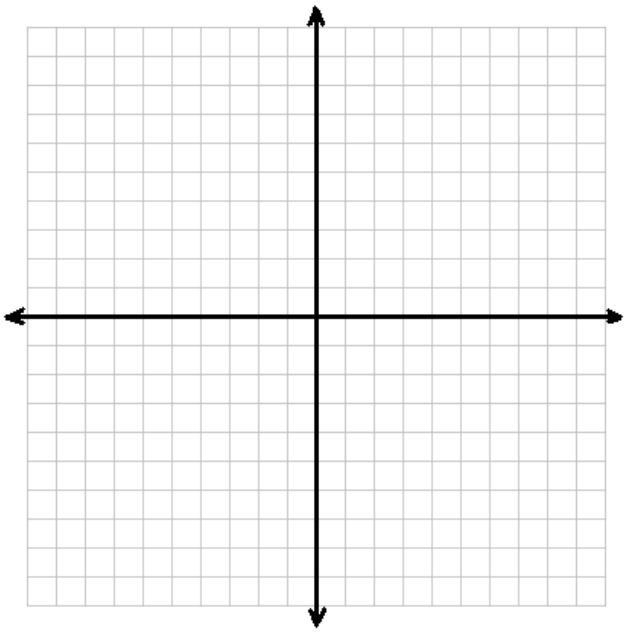
10. Y-intercepts are points that lie on the y-axis and always have an x-value of zero. _____

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.

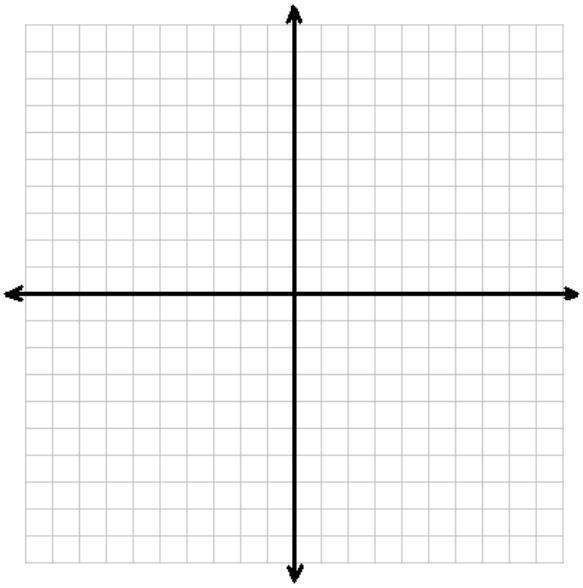
11. $y = -3x + 4$



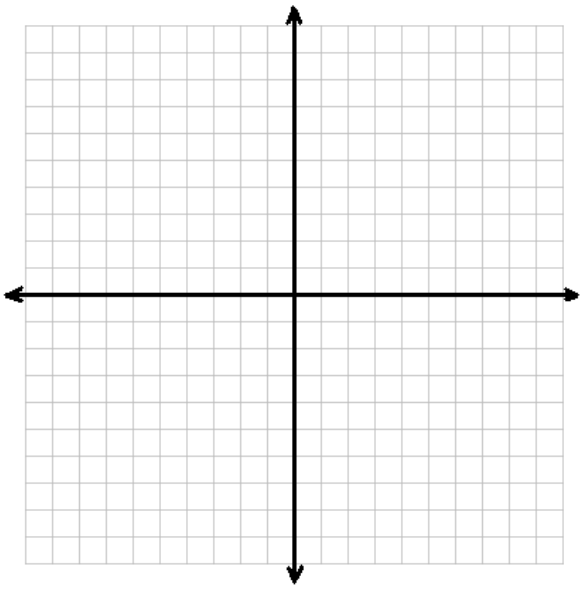
12. $y = 9$



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. $4x + y = -8$

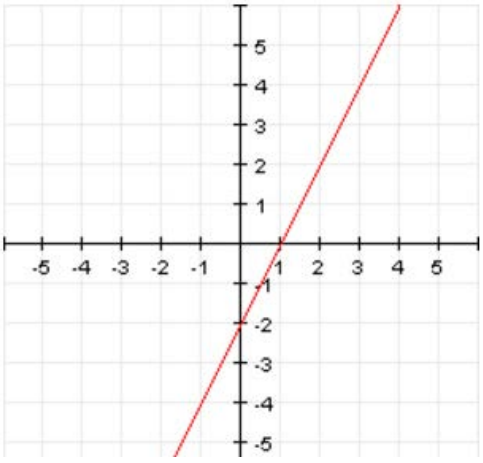
8. $x - 2y = -10$

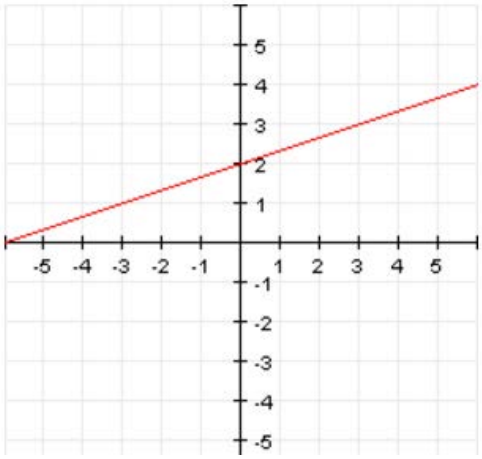
9. $6x + 4y = 12$

10. $x - 9y = -45$

11. $2x - 6y = 18$

12. $7x + 5y = 42$





Direction: Factor each expression completely.

1. $-2x^2y^3z - 4xy^3z + 6x^3y^2z^4$
2. $-5a^2b^3c + 15a^3b^4c^2 - 25a^4b^3c$
3. $a^2 - a - 90$
4. $4x^2 - 4x - 8$
5. $a^2 - 7a + 1$
6. $-7x^4y^3z^5 + 49x^5y^4z^5 - 28x^4y^5z^8$
7. $21a^3 - 84a^2 + 15a - 60$
8. $56xy - 35x + 16ry - 10r$
9. $21ab + 15a + 35cb + 25c$
10. $5a^2z - 4a^2c + 15xz - 12xc$
11. $4xy + 6 - x - 24y$
12. $6ax - 14x + 15a - 35$

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

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

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

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

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

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

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

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

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

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

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

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

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

26. $x^4 - 81$

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

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

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

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