Multiple Choice:

1. The slope of the line passing through the points (2,-4) and (-4,-4) would be:

   a) undefined   b) $\dfrac{4}{3}$ c) 0   d) 3

2. Find the slope (m) and the y-int(b) of the following equation $18x-3y=-162$?

   a) m = -9 b = 54   b) m = -6 b = -54   c) m = 6 b = 54   d) m = 54 b = 6

3. Given the points P(-5,3) and Q(-2,-2), which of the following lines is parallel to the line PQ?

   a) $y=\dfrac{5}{3}x-2$ b) $y=\dfrac{-3}{5}x+3$ c) $y=\dfrac{3}{5}x-7$ d) $y=\dfrac{-5}{3}x+1$

4. The slope of a line perpendicular to the x-axis is:

   a) undefined   b) undetermined   c) 1   d) 0

5. Write $4(x-3)+2y=8x+2$ in the y-intercept form "y=mx+b".

   a) $y=2x+7$ b) $2y=4x+14$ c) $y=7x+2$ d) $x=2y+7$

6. Write $-8x-6y=3$ in the y-intercept form "y=mx+b".

   a) $-6y=8x+3$ b) $x=\dfrac{-3}{4}y-\dfrac{3}{8}$ c) $y=8x+9$ d) $y=\dfrac{-4}{3}x-\dfrac{1}{2}$

7. What is the slope of the line perpendicular to 5x+2y=2?

    a) $\dfrac{-5}{2}$
    b) $\dfrac{5}{2}$
    c) $\dfrac{-2}{5}$
    d) $\dfrac{2}{5}$

8. What is the fully factored form of $32x^4 y^2 - 16xy^3 + 48x^5y^3$

    a) $16xy^2(2x^3 - y + 3x^4y)$
    b) $4xy^2(8x^3 - 4y + 12x^4y)$
    c) $16(2x^4y^2 - xy^3 + 3x^5y^3)$
    d) $16xy(2 + 1x - 3xy)$

9. Which type of factoring method would you use to factor the following expression... $4x^2 + 5x - 6$

    a) Does not Factor
    b) Decomposition
    c) Common Factoring
    d) Difference of Square

10. Factor the following..... $144x^2 - 25$

    a) Not Possible
    b) $(12x - 5)^2$
    c) $29x(x - 5)$
    d) $(12x - 5)(12x + 5)$

11. Given the polynomial $4x^2 + 5x - 6$, one of the factors would be:

    a) $(4x + 3)$
    b) $(x + 2)$
    c) $(4x - 2)$
    d) $(x - 3)$

12. Factor the following: $14a^2b^5c^3 - 21ab^3c^2 + 35ac^5$

    a) $7ab^3c^2(2ab^2c^1 - 3 + 5c^3)$
    b) Not Possible

    c) $7ac^2(2ab^5c^1 - 3b^3 + 5c^3)$
    d) $7ac^2(2a^2b^5c^1 - 3b^2 + 5c^3)$

13. An equivalent expression to the expression $x^2 + 4x - 45$ is:

    a) $(x+5)(x-9)$ b) $(x-5)(x-9)$ c) $(x+5)(x-8)$ d) $(x-5)(x+9)$

14. An equivalent expression to the expression $2(2x-3y)(3x-y)$ is:

    a) $12x^2 - 6y^2$ b) $12x^2 - 14xy - 6y^2$ c) $12x^2 - 22xy + 6y^2$ d) $12x^2 - 24y^2$

15. What is the simplest form of $3(x^2 - 2x - 1) + 3(5x - 4 - 2x^2)$

    a) $3x^2 + 9x - 15$ b) $3x^2 - 9x + 15$ c) $-3x^2 + 9x - 15$ d) $3x^2 - 6x - 3 + 15x - 12 - 6x^2$

** **Use the following to answer questions #16 – #18**

You are trying to decide which cell phone company to choose. Aliant charges a monthly fee of $26 and $0.02 for every text. Rogers charges a monthly fee of $40 but has unlimited texting.

16. If you texted around 500 texts a month which company would you choose.
    a) Aliant   b) Rogers   c) Not enough information   d) both will cost the same

17. How many texts would you have to make for both companies to cost the same?
    a) 600   b) 500   c) 300   d) 700

18. Write the equation to represent Aliant's cell plan.
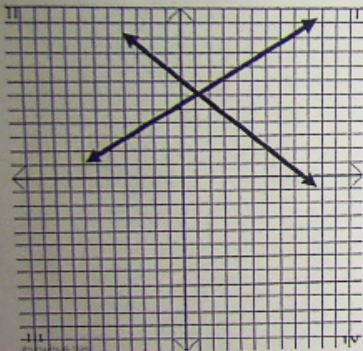   a) $y = 0x + 40$ b) $y = 26x + 0.02$ c) $y = 0.02x + 26$ d) $y = 0.02x + 40$

19. Using the graph below, determine the point of intersection.

    a) $(-1, 6)$ b) $(-6, 1)$ c) $(1, 6)$ d) $(6, 1)$

20. Jennifer calculates the slope of a line to be 2/3. She also notes that a point on the same line has the coordinates
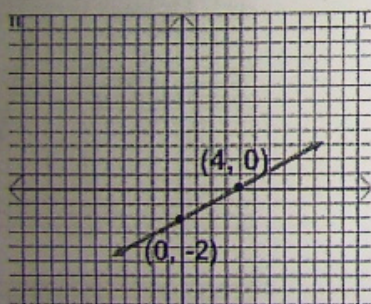   The equation of the line is:
    a) $2x-3y+19=0$ b) $2x-3y-16=0$ c) $2x-3y+11=0$ d) $2x-3y-19=0$

21. Determine the equation of a vertical line passing through the point (-6,-7).
    a) x+7=0   b) y+7=0   c) y+6=0   d) x+6=0

22. Thomas determines the slope of a line to be 1/3 with the coordinates (-2,-1) and (6, k). Find the value of k.
    a) 5/3   b) 3   c) 7/3   d) 5

23. Determine the equation of a line using the graph provided.

a) y = 2x -2   b) y = 1/2x – 2   c) y = -1/2x -2   d) y = 2x + 4

a) y – 2x -2   b) y – 1/2x – 2   c) y – -1/2x -2   d) y – 2x + 4

24. Which expression is $\sqrt[5]{64}$ expressed as a mixed radical in simplest form?

    a) $\sqrt{8} \times \sqrt[3]{8}$ b) $2\sqrt[5]{2}$ c) $\sqrt[2]{32} \times \sqrt[3]{2}$ d) $32\sqrt[2]{2}$

25. Which expression is $\sqrt[3]{54}$ expressed as a mixed radical in simplest form?

    a) $\sqrt{9} \times \sqrt[3]{6}$ b) $27\sqrt[3]{2}$ c) $\sqrt[2]{14} \times \sqrt[3]{2}$ d) $3\sqrt[3]{2}$

26. The exact value of $(1/27)^{-2/3}$ is:
    a) -1/27   b) 1/9   c) -1/9   d) 9

27. Expressed as a power , the value of $(\sqrt[4]{13})^7$ is:
    a) $13^{1/3}$ b) $13^{4/7}$ c) $13^{-4/7}$ d) $13^{7/4}$

28. Simplify the expression: $\dfrac{(x^3y^{-4})^{-2}}{(x^{-3}y^3)^3}$

    a) $\dfrac{x^3}{y}$ b) y   c) x^4y^3 d) x^3y^{-8}

29. State the prime factors of 380

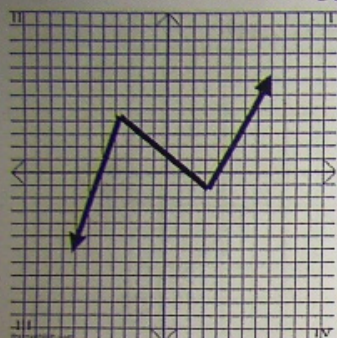   a) $(2^2)(5)(19)$ b) $(2^2)(5)(3^3)$ c) $(2^3)(5)(19)$ d) $(2^2)(3)(5)(7)$
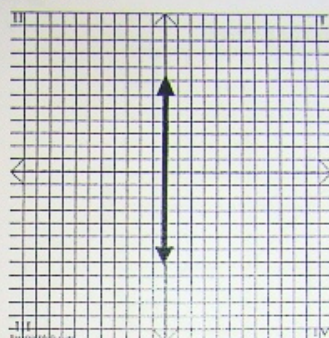
Use the following graph to answers questions 29, 30 & 31

Joshua's Bike Ride
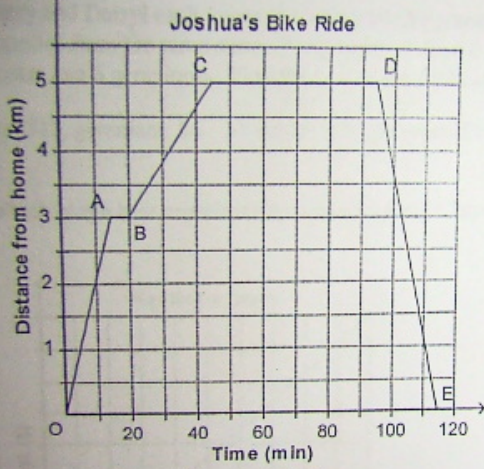
30. When was Josh travelling the fastest.
    a) OA   b) AB   c) BC   d) CD   e) DE

31. Which of the following segments represents a time where Josh had stopped biking..
    a) OA   b) BC   c) CD   d) DE

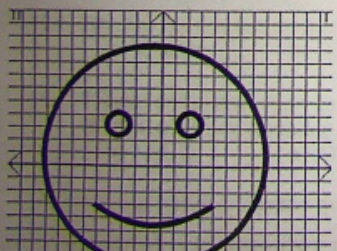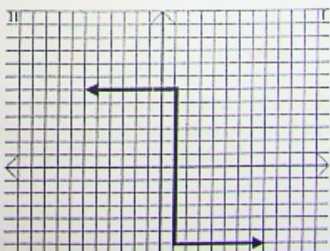32. State which of the following graph represents a function?

a)

b)

c)

d)

33. Solve the following system of equations:

    Solve each system by elimination.

    $9x + 5y = 15$
    $4x + 10y = 30$

    A) Infinite number of solutions
    B) $(8, -3)$
    C) $(0, 3)$
    D) $(0, -3)$

34. Solve the following system of equations:

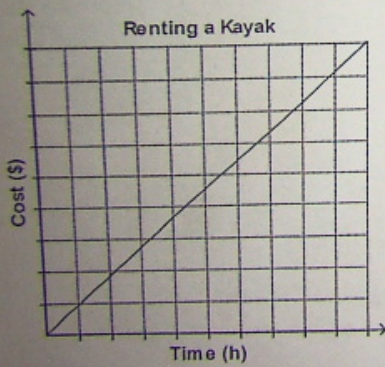   **Solve each system by substitution.**

    $x - 3y = 1$
    $2x + 4y = -18$

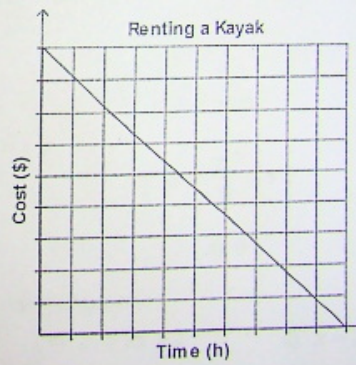   A) $(-5, -2)$ B) $(-5, 8)$
    C) $(5, 8)$ D) $(8, 5)$

35. Perry and Darryl each improved their yards by planting hostas and geraniums. They bought their supplies from the same store. Perry spent $198 on 6 hostas and 12 geraniums. Darryl spent $198 on 12 hostas and 6 geraniums. Find the cost of one hosta and the cost of one geranium.

a) hosta: $13, geranium: $6   b) hosta: $18, geranium: $15   c) hosta: $11, geranium: $11   d) hosta: $6, geranium:
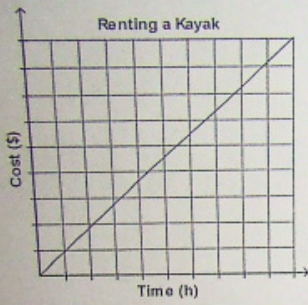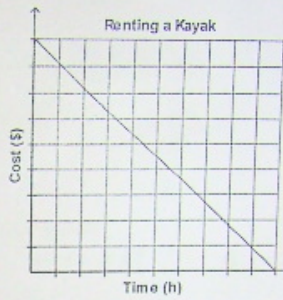
36.   Which graph best represents the cost of renting a kayak as a function of time?

a.

Renting a Kayak

Cost ($)

Time (h)

c.

Renting a Kayak

Cost ($)

Time (h)

36. Which graph best represents the cost of renting a kayak as a function of time?

a.

Renting a Kayak

Cost ($)

Time (h)

c.

Renting a Kayak

Cost ($)

Time (h)

b.

Renting a Kayak

Cost ($)

Time (h)
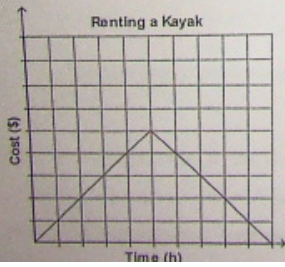
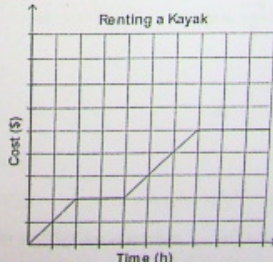d.

Renting a Kayak

Cost ($)

Time (h)

37. Calculate the distance between the following pair of points: A (2, 6) B (8, -2)
    a) 10 units   b) 5.3 units   c) 7 units   d) 12.3 units

38. Thomas and Sydney meet for lunch everyday at subway which is located at the midpoint between their homes.
If Thomas's house is located at (10, 3) and Sydney's house is located at (4, 7), Where do they meet?
    a) (3, 2)   b) (7, 5)   c) (2, 3)   d) (5, 7)

Use the graph below to answer questions 39 & 40
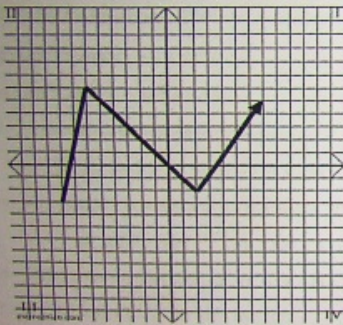
39. Find the range
    a) { x ≥ -8, XER}   b) { -8 ≤ x ≤ 7, XER}   c) { y ≥ −3, YER}   d) { y ≥ -2, YER}

40. Find the Domain.
    a) { x ≥ -8, XER}   b) { -8 ≤ x ≤ 7, XER}   c) { y ≥ --3, YER}   d) { y ≥ -2, YER}