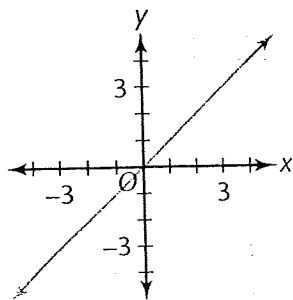Name: _____

Date: _____

Hour: _____
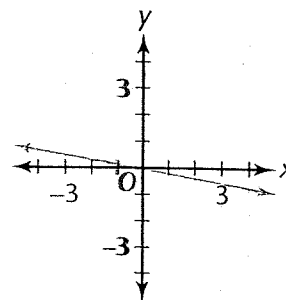
Final Exam Review #1- Chapter 5 and 6

Examine the graphs below. Which lines have positive slopes? Which lines have negative slopes? Which have neither?
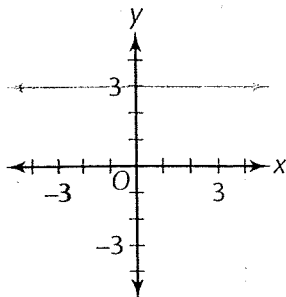
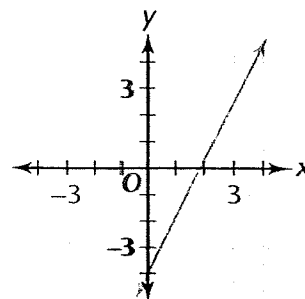1.)

2.)

3.)

4.)

Find the slope for each given lines.

5.)rise 6, run 2

6.) rise 1, run 7

7.) rise -1, run 7

8.) rise 0, run 5

Find the slope of the line. HINT! m = $\frac{y2-y1}{x2-x1}$
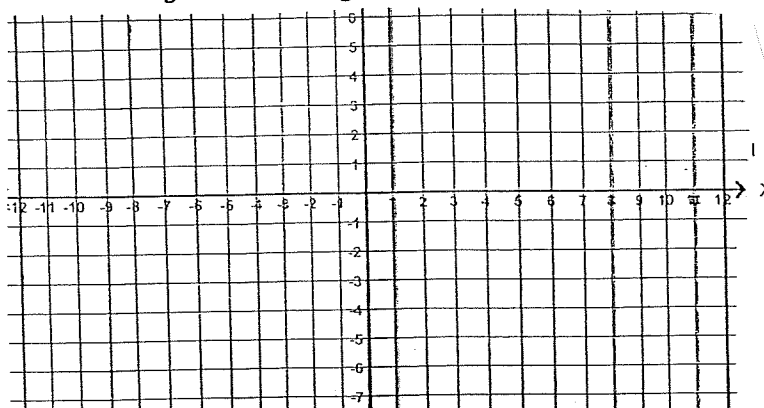
9.) (9, 6) (1, 4)

10.) (1, 3) (1, 5)

11.) (-3, 1) (2, 6) 12.) (0, 2) (3, 0)

Draw each pair of lines on the graph. For each pair, identify what is the same and what is different? (Slope or y-intercept)

13.) $y = \frac{1}{2}x + 0$; $y = -\frac{1}{2} + 0$

14.) $y = \frac{4}{3}x + 0$; $y = -\frac{4}{3}x + 0$
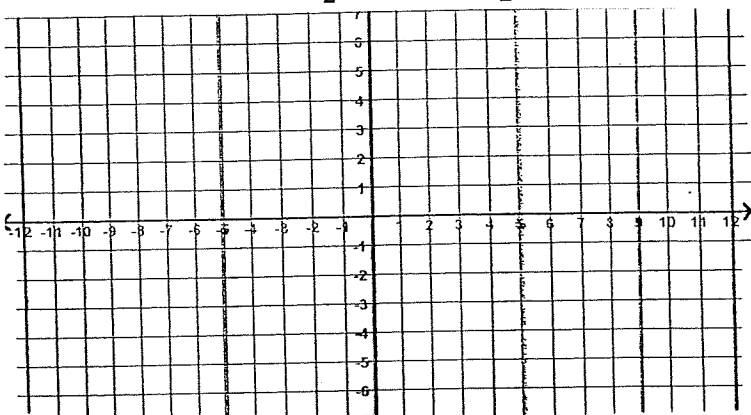
Same: _____

Same: _____

Different: _____

Different: _____

15.) $y = 4x - 7$; $y = -4x - 7$

16.) $y = 8x - 7$; $y = -8x - 7$
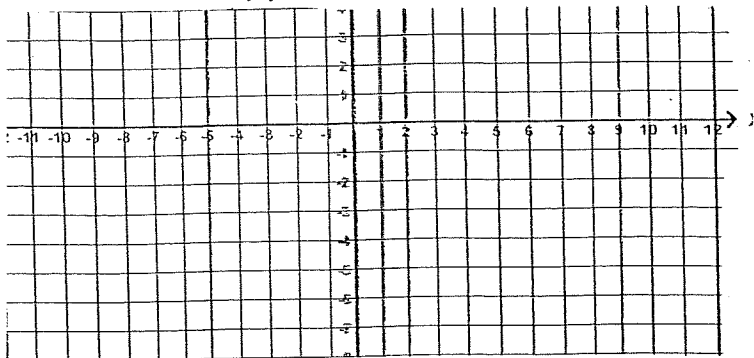
Same: _____

Same: _____

Different: _____

Different: _____

Examine the lines on the graph.
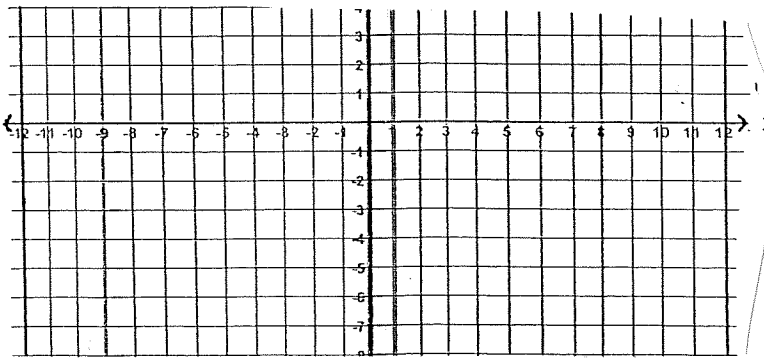
17.) Which line has a y-intercept of -2?

18.) Which line has a positive slope?
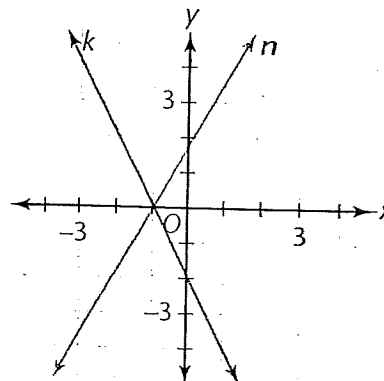
Write the equation for a line.

19.) with a slope of -1 and with y-intercept of 0.

20.) through (0, -4) and with a slope of -4.

21.) with a slope of 11 and with y-intercept 15

22.) with a slope of -5 and y-intercept 7.

23.) through (0, 5) and with slope 1.

Write equations for the graphs of the following lines.

24.)

25.)

Match each equation with the appropriate description.

26.) y = -x + 9   a.) a horizontal line 9 units above the origin

27.) x = 9   b.) a vertical line 9 units to the right of the origin

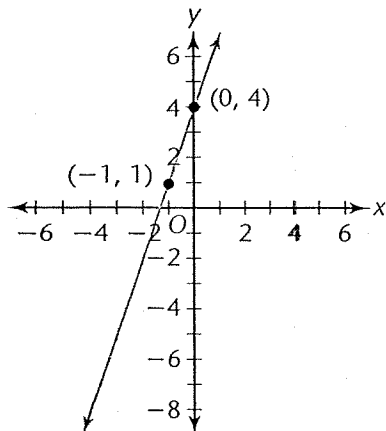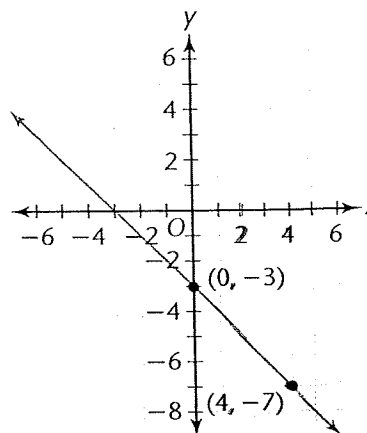28.) y = 9   c.) a line through the origin with slope 9

29.) y = 9x   d.) a line with a slope of -1 and y-intercept of 9

Determine whether the following lines are vertical or horizontal.

30.) y = 8   31.) x = -2

32.) y = -4   33.) x = 9

Algebraically determine whether the point (2, 10) is a solution for each pair of equations.

34.) $\begin{cases} y = 2x - 4 \\ y = x + 8 \end{cases}$ 35.) $\begin{cases} y = -x + 12 \\ y = -3x + 16 \end{cases}$

36.) $\begin{cases} y = x + 8 \\ y = -3x + 16 \end{cases}$

Statistics: A survey of participation in school music programs has results shown in the table. Explain how to find each of the following.

	Participated	Did not participate
Boys	43	59
Girls	49	57

1.) How many students are girl?

2.) How many students participated?

3.) How many students girls AND participated?

4.) How many students are girls OR participated?

Statistics: In a class of 28 students, 17 have brown eyes and 13 have black hair. This includes 10 who have both.

5.) Shown this in a Venn diagram. Include all 28 students.

6.) How many students have either brown eyes **OR** black hair?

Rules of exponents:

7.) When you multiply powers, what operation is applied to the exponents of the common base? Explain.

8.) When you divide powers, what operation is applied to the exponents of the common base? Explain.

9.) When you raise a power to a power, what operation is applied to the exponents of the common base? Explain.

Evaluate each of the following.

10.) $(3x)^2$

11.) $(\frac{a}{b})^3$

12.) $(\frac{10x}{y})^2$

Find each product.

13.) $(8r^2)(4r^3)$

14.) $(70x^4)(7x^3)$

15.) $(-2a^5)(4a^2)$

Find each quotient.

16.) $\frac{8r3}{4r2}$

17.) $\frac{70x4}{7x3}$

18.) $\frac{-2a5}{4a2}$

Simplify each of the following.

19.) $(2x^4)^3$

20.) $(3b^2)^5$

21.) $(-2r^3)^2$

22.) $(-10m^4)^3$

23.) $(5j^2k^3)^4$

24.) $(3xy^4z^5)^2$

Write each of the following without negative or zero exponents.

25.) 2^{-3}

26.) 10^{-5}

27.) a^3b^{-2}

28.) $c^{-4}d^3$

29.) $v^0w^2y^{-1}$

30.) $(a^2b^{-7})^0$

Write the degree of each polynomial.

31.) $4r + 1$

32.) $x^3 + x^4 + x - 1$

33.) $y + y^3$

Identify each polynomial by name from the number of terms and degree.

34.) $3x + 1$

35.) $8x^2 - 1$

36.) $8x^2 - 2x + 3$

Find the sum of the polynomials.

37.) $(y^3 - 4) + (y^2 - 2)$

38.) $(x^3 + 2x - 1) + (3x^2 + 4)$

39.) $(3s^2 + 7s - 6) + (s^3 + s^2 - s - 1)$

40.) $(w^3 + w - 2) + (4w^3 - 7w + 2)$

Find the difference of each polynomial.

41.) $(y^2 + 3y + 2) - (3y - 2)$

42.) $(3x^2 - 2x + 10) - (2x^2 + 4x - 6)$

43.) $(3x^2 - 5x + 3) - (2x^2 - x - 4)$

44.) $(x^3 - x + 4) - (8x^3)$