Stations One: Conversions and Word Problems

1) Convert 7 days into years

2) Convert 56.7 yards into inches

3) How many cups are in 5.2 gallons

4) Convert 12.6 ounces into pounds (1 lb = 16 oz)

5) How many cm are in 23 meters?

6) Convert .552 grams into milligrams

7) Convert 15.5 feet into meters (use 1 inch = 2.54 centimeters)

8) Convert 55 kilograms into pounds (use 1 ounce = 28.35 g)

9) Tom can drive 310 miles on 10.5 gallons of gas, How many kilometers can he drive on 15 Liters? (1 mile = 1.61 miles and 1 quart =.946 L)

10) Becca is 175 miles from Atlanta. If she is driving at 50 mph, how many hours will it take her to reach her destination?

11) Henry's fitness club charges a one time registration fee and then charges by the month. The amount he pays for service can be model by the equation 10m + 25. What does 10 represent? What does 25 represent?

12) Write an expression that modes the following "8 less than twice a number"

13) Four times the square of a number and 16

Station Two: Radicals

1) $\sqrt{360x^3y^2}$

2) $4xy\sqrt{900x^4y^6}$

3) $\sqrt{63x^2y} \cdot \sqrt{14y^3}$

4) $3x\sqrt{15x} \cdot 2\sqrt{10x^2}$

5) $\sqrt{10x^2} \cdot -3x\sqrt{20x^2}$

6) $-4\sqrt{20x^2} \cdot 5x\sqrt{25x}$

7) $3\sqrt{6} - 2\sqrt{27} + 3\sqrt{54}$

8) $3\sqrt{150} - \sqrt{150} - 4\sqrt{75}$

9) $2\sqrt{6} - 3\sqrt{4} - 3\sqrt{24}$

10) $-5\sqrt{27} + 2\sqrt{12} + \sqrt{8}$

11) Give one example of rational number. Explain why it is rational

12) Give one example of an irrational number. Explain why it is irrational

Stations 3: Polynomials

1) Write the following in standard form, state the leading coefficient, the degree (and name by degree), and name by number of terms $5x^2 - 10 + x - 3x^3$

2) Write the following in standard form, state the leading coefficient, the degree (and name by degree), and name by number of terms $4 + 6x^2 - 12x$

3) $(x^2 + 3x) + (x^2 - 4x + 9)$

4) $(4x^2 - 11x + 10) + (5x - 31)$

5) $(x^2 - 6x + 5) - (x^2 + x - 2)$

6) $(7x^3 - 1) - (15x^3 + 4x^2 - x + 3)$

7) $-4x(x^2 + 6x - 7)$
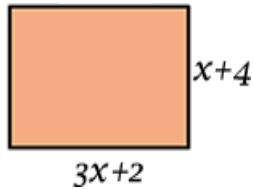
8) $(3x - 4)(2x - 7)$

9) $(x + 6)(x - 6)$

10) $5x^3(4x^5 - 2x + 1)$

11) $(8x - 1)^2$

12) $(7x - 5)(3x + 10)$

Station 4: Perimeter, Area, and Volume

1) Find the perimeter and the area of the rectangle below

   $x+4$

   $3x+2$

2) What is the volume of a box of tissues with dimensions 12 inches by 4 inches by 5 inches?

3) A pool is designed to be 10 feet longer than its width. Draw a diagram that would represent this.

4) What would be the perimeter of the pool?

5) What would be the area of the pool?

6) If x = 12 feet what is total square area of the pool?

7) If the pool is going to be 6 feet deep what is the volume of the pool?

8) How many gallons will it take to fill the pool? (1 ft³ = 7.48 gallons)

9) You are going to fill the pool with your hose which flows at a rate of 90 kg/min. How many gallons is that per minute? (1 kg = .264 gallons)

10) How many minutes will it take to fill up the pool? (bonus- what is that in hours?)