Math 4B - HW 23

1. Remove parenthesis and simplify:

$3 \cdot (x + 1) + x \cdot (x + 1) =$

$x \cdot (2x + 3) + 3 \cdot (2x + 3) =$

2) **Multiply the following expressions**

$(x + 1)\,(x + 2) =$

$(x - 1)\,(x + 2) =$

$(x + 3) \cdot (2x + 5) =$

$(x - 3) \cdot (2x + 5) =$

$(3 + x)\,(4x + a) =$

$(3 + x)\,(4x - a) =$

3) Solve the following problems:

a) Find the prime factorization of 30. Then, find every pair of numbers that multiply to 30.

b) Using your previous work, solve the following equations:

$$x^2 + 13x + 30 = 0$$

$$x^2 + 11x + 30 = 0$$

$$x^2 + 17x + 30 = 0$$

$$x^2 + 31x + 30 = 0$$

4) There are three shapes: a circle, a square, and a right triangle.

The right triangle has a hypotenuse of 5 inches, and a base of 4 inches.

The area of the square is 50% larger than the area of the right triangle.

The area of the circle is equal to three times the area of the triangle plus double the area of the square.

Find the radius of the circle (You may keep your answer in terms of pi)