

## Midterm Review #3

1. Given the  $\triangle ABC$ , where  $\angle A = 90^\circ$ ,  $AB = 30$  cm and  $\angle B = 37^\circ$ , write the 3 equations needed to solve the triangle. DO NOT SOLVE.

2. Simplify:  $\left(\frac{2x^5}{x^{-2}}\right)^4$

3. Determine the  $\sin 75^\circ$  to 3 decimal places.

4. Simplify:  $(5x - 4)^2 - 2(x + 7)$

5. Factor completely:

a.  $x^2 + 14x + 24$

b.  $7x - 14y$

c.  $9x^2 - 25$

d.  $x^2 - 4x - 21$

6. Identify the following in the expression  $2xy + 6x^4 + 3x^2 - 1$

a) degree

b) Leading coefficient

c) Coefficients

d) Constant

e) Type based on terms

f) Type based on variables

7. Determine the equation for the pattern: 7, 5, 3, ....

8. What quadrant is the point (-3, 7) found?

9. Given the  $\triangle RST$ , if  $\angle R = 35^\circ$ , what are the other angles in the triangle?

10. If the number R, is a perfect square, what would be the values for a and b?

$$R = 2 \cdot 2 \cdot 3 \cdot a \cdot b$$