

# Assignment #4-4

# Secondary 3 Honors

**PreCalculus Book:** Pg. 152 – 155 13-18, 31, 32, 36, 49

**Additional Problems:** Complete these problems on a separate sheet of paper.

1. Factor using **factoring methods**.

a.  $2x^2 + 4x - 30$

b.  $9x^2 - 25$

c.  $3x^2 + 14x + 8$

d.  $x^3 + 3x^2 + 5x + 15$

2. Write the complex number in standard form  $(a + bi)$   $\frac{3+2i}{4-5i}$

3. Write the following in vertex form. (Hint: You will need to complete the square.)

$$y = -3x^2 + 12x - 5$$

4. Graph without a calculator:  $f(x) = (x-2)^2(2x+3)(x+4)^5$

5. Write a polynomial with roots: 0, -5i, 5i.

6. Perform the indicated operation and simplify:

a.  $\frac{3}{x^2-9} + \frac{5x}{x-3}$

b.  $\frac{7x-7}{3x^2} \square \frac{x+5}{9x^2-9} \square \frac{x^2-5x-6}{x^3+6x^2+5x}$

7. Solve the equations for x:

a.  $\frac{x-5}{x-2} = \frac{8}{9}$

b.  $\frac{-4}{x-6} + \frac{6}{x+7} = \frac{10}{x^2+x-42}$

## ACT Review:

1. A rectangle has an area of 32 square feet and a perimeter of 24 feet. What is the shortest of the side lengths, in feet, of the rectangle?

- F. 1
- G. 2
- H. 3
- J. 4
- K. 8

2. In  $\triangle ABC$ , the sum of the measures of  $\angle A$  and  $\angle B$  is  $47^\circ$ . What is the measure of  $\angle C$ ?

- A.  $47^\circ$
- B.  $86^\circ$
- C.  $94^\circ$
- D.  $133^\circ$
- E.  $143^\circ$

3. In the school cafeteria, students choose their lunch from 3 sandwiches, 3 soups, 4 salads, and 2 drinks. How many different lunches are possible for a student who chooses exactly 1 sandwich, 1 soup, 1 salad, and 1 drink?

- F. 2
- G. 4
- H. 12
- J. 36
- K. 72