

# Assignment #4-2

# Secondary 3 Honors

## Carnegie Book:

Pg. 601 - 602 #2 (a - d), #3 (a-d) (List domain restrictions on problem #3)

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

Perform each operation and simplify, if possible.

1.  $\frac{3}{x} + \frac{1}{x+1}$

2.  $\frac{x}{2x-1} + \frac{x+2}{x}$

3.  $\frac{1}{x+3} - \frac{1}{x-3}$

4.  $\frac{1}{x^2-4} - \frac{1}{x-2}$

5.  $\frac{x+1}{x^2-3x-4} + \frac{x-3}{x-2}$

6.  $\frac{x+2}{2x-2} - \frac{-2x-1}{x^2-4x+3}$

7.  $\frac{1}{2x^2+3x-2} \cdot \frac{x^2-2x-8}{x-4}$

8.  $\frac{x^2-9}{x+3} \div (x-3)$

9.  $\frac{\frac{16}{x-2}}{\frac{4}{x+1} + \frac{6}{x}}$

10. Solve each quadratic equation. Answer in EXACT form... no decimals.

a)  $y^2 - 10y = 7$

b)  $2x^2 - x + 6 = 0$

c)  $4(x-7)^2 = 80$

11. State the domain:

a)  $g(x) = \frac{3x-7}{x^2-7x-8}$

b)  $h(x) = \frac{3x-7}{\sqrt{x-10}}$

c)  $f(x) = 3x^2 - 4x + 1$

## ACT Review:

1. Marlon is bowling in a tournament and has the highest average after 5 games, with scores of 210, 225, 254, 231, and 280. In order to maintain this exact average, what *must* be Marlon's score for his 6th game?

- F. 200
- G. 210
- H. 231
- J. 240
- K. 245

2. Joelle earns her regular pay of \$7.50 per hour for up to 40 hours of work in a week. For each hour over 40 hours of work in a week, Joelle is paid  $1\frac{1}{2}$  times her regular pay. How much does Joelle earn for a week in which she works 42 hours?

- A. \$126.00
- B. \$315.00
- C. \$322.50
- D. \$378.00
- E. \$472.50

3. Which of the following mathematical expressions is equivalent to the verbal expression "A number,  $x$ , squared is 39 more than the product of 10 and  $x$ " ?

- F.  $2x = 39 + 10x$
- G.  $2x = 39x + 10x$
- H.  $x^2 = 39 - 10x$
- J.  $x^2 = 39 + x^{10}$
- K.  $x^2 = 39 + 10x$