Classwork 6 Intermediate Algebra MTH 35 Topic: Algebraic and Rational Expressions II

Name:

- 1. Find the zeros and the domain of the following rational expressions.
 - **a.** $\frac{2x+1}{5-4x}$

b.
$$\frac{y^2 + 1}{y^3 - 3y^2}$$

c.
$$\frac{2z-7}{z^2-z-20}$$

2. Simplify the following expressions.

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

b.
$$\frac{1}{x+5} - \frac{x}{x+3}$$

c.
$$u + 1 + \frac{u}{u+1}$$

d.
$$\frac{\frac{1}{x}}{\frac{2}{x^2}}$$

e.
$$\frac{3}{t-3} + \frac{5}{t^2-9}$$

3. Simplify the compound fractional expressions.

a.
$$\frac{x + \frac{1}{x+2}}{x+3}$$

b.
$$\frac{\frac{x}{y} - \frac{y}{x}}{x + y}$$

c.
$$\frac{1 + \frac{1}{c-1}}{1 - \frac{1}{c-1}}$$

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

Classwork 7a Topic: Lines I

Name: _____

Find the slope and use it to find the equation of the following lines. Write the equation in the form y = mx + b.

1. Line with slope 2 and passing through point (-1, 3).

ANSWER

2. Line passing through points (3, 2) and (1, -2).

ANSWER

3. Line passing through points (-1, -2) and (5, 2).

ANSWER

4. Line parallel to the line 9y - 3x = 4 and passing through the point (1, 1).

ANSWER	

5. Line parallel to the line 4x + 2y + 3 = 0 and passing through the point (2, -1).

ANSWER

6. Line perpendicular to the line x + 3y = 3 and passing through point (0, 0).

ANSWER

7. Line perpendicular to the line 8x - 2y + 5 = 0 and passing through point (1, 3).

ANSWER	

Find the slope, *x*-intercept, *y*-intercept and any other point on the following lines. 8. y = 3x - 2



Classwork 9 Intermediate Algebra MTH 35 Topic: Quadratic functions

Name: _____

For the given quadratic function, determine

- if it has an absolute maximum or minimum
- find the abs max/min
- Put the quadratic function in the standard form $f(x) = a(x h)^2 + k$.
- 1. $f(x) = 2x^2 10x + 14$

ANSWER _____

2. $f(x) = 6 - x^2 - 5x$

ANSWER _____

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

ANSWER _____

4. $f(x) = 2x^2 + 8x + 6$

ANSWER _____

5. $f(x) = x^2 - 6x + 5$

ANSWER _____