## Classwork 5 Intermediate Algebra MTH 35 Topic: Algebraic and Rational Expressions I

Name:	
Simplify the following expressions	
1. $(3x+4) + (7x+2)$	ANSWER
2. $2(t-1) + 3(t-3)$	ANSWER
3. $4(u^2+1) - 3(u^2+2u+1)$	ANSWER
4. $5(z^2 - 3z + 2) + 3(z^2 - z + 7)$	ANSWER
5. $3(y-2) - 4(y-7)$	ANSWER
6. $t + (t^2 - 4) - t(t + 3)$	ANSWER
7. $x(x+3)$	ANSWER
8. $y(y-2) + 2y(3-y)$	ANSWER
9. $3u(u^3 - 2u^2 + 4u - 2)$	ANSWER
10. $t(t^2 - 4) - t(t + 3)$	ANSWER

Expand and simplify the following expressions

11. $(x+1)(x-2)$	ANSWER
12. $(x-1)(x+1) + x^2(x-3)$	ANSWER
13. $y^2(y^2 + 3y + 2) - (y^4 + y)$	ANSWER
14. $(2u+3)(3u-1)$	ANSWER
15. $(t-4)(2t-1)$	ANSWER
Simply the following rational expressions 16. $2 - \frac{x}{x+3}$	ANSWER
17. $\frac{1}{x+5} - \frac{x}{x+3}$	ANSWER
18. $u + 1 + \frac{u}{u+1}$	ANSWER
19. $\frac{1}{x} - \frac{2}{x^2}$	ANSWER
20. $\frac{3}{3} + \frac{5}{3}$	

## 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

