

Name: \_\_\_\_\_

Final Review #2

Show all work in Cornell Notes form on a separate sheet of paper.

1. Simplify completely:  $\frac{x^2 + 2xy - 8y^2}{xy + 4y^2}$

A.  $\frac{x - 2y}{y}$

B.  $\frac{x + 4y}{y}$

C.  $\frac{x + 2y}{y}$

D.  $\frac{x - 4y}{y}$

2. Compute and simplify:  $\frac{x^2 + 4x + 3}{x^2 - 4x - 5} \cdot \frac{x^2 - 25}{x^2 + 3x}$

A.  $\frac{x - 5}{x + 3}$

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

C.  $\frac{x + 1}{x - 4}$

D.  $\frac{x + 5}{x}$

3. One person can mow a lawn in 12 minutes, while another person takes 24 minutes to mow the same lawn. How long will it take the two people working together to mow the lawn? Round your answer to the nearest minute.

A. 15 min

B. 2 min

C. 8 min

D. 12 min

4. Solve using the quadratic formula:  $2x^2 - 6x + 4 = 0$

A.  $x = -1$  or  $x = -2$

B.  $x = 3$  or  $x = -7$

C.  $x = 1$  or  $x = 2$

D.  $x = 0$  or  $x = -2$

5. Find the roots of the equation:  $y = -x^2 + 2x + 2$

A.  $x = -2$  or  $x = 3$

B.  $x = 1 \pm \sqrt{3}$

C.  $x = \frac{2 \pm \sqrt{12}}{2}$

D.  $x = \frac{2 \pm 2\sqrt{3}}{2}$

6. The length of a rectangle is  $3\text{cm}$  greater than the width. The area of the rectangle is  $28\text{cm}^2$ . Find the width.

A.  $4\text{cm}$

B.  $-6\text{cm}$

C.  $7\text{cm}$

D.  $13\text{cm}$