

## Simplify, Multiply and Divide Rational Expressions

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

Date: \_\_\_\_\_

1. Simplify:  $\frac{x^2 - 5x - 14}{x^2 - 49}$

- A.  $\frac{x+2}{x+7}$     B.  $\frac{2}{7}$     C.  $\frac{x+2}{7-x}$     D.  $\frac{x-2}{x-7}$

2. Simplify:  $\frac{\left(\frac{7x^2y}{21x^2 - 6x}\right)}{\left(\frac{14x}{49x^2 - 4}\right)}$

- A.  $\frac{6}{7xy + 2y}$     B.  $\frac{7xy + 2xy}{6}$   
 C.  $\frac{6}{7xy + 2x}$     D.  $\frac{7xy + 2y}{6}$

3. Simplify:  $\frac{4a - 28}{6} \div \frac{a^2 - 49}{3a - 21}$

- A.  $\frac{2(a-7)}{(a+7)}$     B.  $\frac{2a-14}{7}$   
 C.  $\frac{a^2 + 4a - 77}{6(3a-21)}$     D.  $\frac{a-8}{6(a-7)}$

4. Simplify:  $\frac{3x^2 - 6x}{4 - x^2} \cdot \frac{3x^2 + 5x - 2}{27x^2 - 3}$

- A.  $\frac{-x}{3x+1}$     B.  $\frac{-x(x-2)}{(3x-1)(x+2)}$   
 C.  $\frac{x(x-2)}{(3x-1)(x+2)}$     D.  $\frac{-x(x+2)}{(3x-1)(x+2)}$

5. Multiply:  $\frac{x^2 + 3x - 10}{x^2 - 4} \cdot \frac{x+2}{x^2 - 9}$

- A.  $\frac{5}{x-9}$     B.  $\frac{x+5}{x-9}$   
 C.  $\frac{x+5}{x^2-9}$     D.  $\frac{x-5}{x^2+9}$

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

- A.  $2(x+1)$     B.  $2(x-1)$   
 C.  $\frac{2(x+3)^2}{(x+1)^2(x-1)}$     D.  $x+1$

7. Simplify:  $\frac{c^2 - 3c - 10}{c^2 - 4} \div \frac{c^2 - 25}{c^2 + 2c - 15}$

- A.  $\frac{c+2}{2(c-3)}$     B.  $\frac{c-3}{c^2}$   
 C.  $\frac{c-3}{c-2}$     D.  $\frac{c^2(c-3)}{c-2}$

8. Simplify:  $\frac{2x^2 + 9x + 9}{x^2 - 6x - 27}$

- A.  $\frac{2}{x-3}$     B.  $-\frac{1}{3}$   
 C.  $\frac{2x+3}{x-9}$     D. does not simplify

9. Simplify:  $\frac{x^2 - x - 6}{x^2 - 5x + 6}$

- A.  $-3$     B.  $\frac{x+2}{x-2}$     C.  $\frac{x+3}{x+2}$     D.  $\frac{x-2}{x+2}$

10. Simplify:  $\frac{x^2 - x - 2}{x^2 + 6x + 5} \div \frac{2x^2 - 3x - 2}{4x^2 - 1}$

- A.  $\frac{(x+1)(2x-1)}{(x+3)(x+2)}$     B.  $\frac{2x-1}{x+5}$   
 C.  $\frac{x+5}{2x-1}$     D.  $\frac{1}{(x+2)(x+3)}$

1.  
Answer: A  
Objective: A.APR.6
2.  
Answer: D  
Objective: A.APR.7
3.  
Answer: A  
Objective: A.APR.7
4.  
Answer: A  
Objective: A.APR.7
5.  
Answer: C  
Objective: A.APR.7
6.  
Answer: B  
Objective: A.APR.7
7.  
Answer: C  
Objective: A.APR.7
8.  
Answer: C  
Objective: A.APR.6
9.  
Answer: B  
Objective: A.APR.6
10.  
Answer: B  
Objective: A.APR.7