

# 8-4 Standardized Test Prep

## Rational Expressions

### Multiple Choice

For Exercises 1–4, choose the correct letter.

1. Which expression equals  $\frac{x^2 - 4x - 5}{x^2 + 6x + 5}$ ?

(A)  $x + 1$

(B)  $-10x - 10$

(C)  $\frac{x - 5}{x + 5}$

(D)  $\frac{4x - 5}{6x + 5}$

2. Which expression equals  $\frac{42a^2b^4}{12a^5b^{-2}}$ ?

(F)  $\frac{7b^6}{2a^3}$

(G)  $\frac{30a^7}{b^2}$

(H)  $\frac{7ab^3}{2}$

(I)  $\frac{30b^2}{a^3}$

3. Which expression equals  $\frac{t^2 - 1}{t - 2} \cdot \frac{t^2 - 3t + 2}{t^2 + 4t + 3}$ ?

(A)  $\frac{t^2 - 2t + 1}{t + 3}$

(B)  $\frac{t^2 - 1}{t + 3}$

(C)  $\frac{(t + 1)^2(t + 3)}{(t - 2)^2}$

(D)  $\frac{2t^2 - 3t + 1}{t^2 + 5t + 1}$

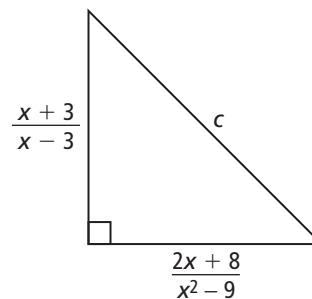
4. What is the area of the triangle shown at the right?

(F)  $\frac{2x + 8}{x^2 - 6x + 9}$

(H)  $\frac{x + 4}{x^2 - 6x + 9}$

(G)  $\frac{x^2 + 6x + 9}{x + 4}$

(I)  $\frac{2x^2 + 12x + 18}{x + 4}$



### Short Response

5. What is the quotient  $\frac{y + 2}{2y^2 - 3y - 2} \div \frac{y^2 - 4}{y^2 + y - 6}$  expressed in simplest form? State any restrictions on the variable. Show your work.