

Factor completely.

1)  $x^2 + 47x + 48$       A)  $(x + 12)(x - 4)$       B) Prime      C)  $(x - 12)(x + 4)$       D)  $(x + 48)(x - 1)$       1) \_\_\_\_\_

2)  $4x^2 - 40x + 100$       A)  $4(x - 5)(x - 5)$       B)  $4(x - 25)(x + 1)$       C) Prime      D)  $(4x - 20)(x - 5)$       2) \_\_\_\_\_

3)  $121k^2 - 81m^2$       A)  $(11k + 9m)^2$       B) Prime      C)  $(11k + 9m)(11k - 9m)$       D)  $(11k - 9m)^2$       3) \_\_\_\_\_

Factor the polynomial.

4)  $by + 6y - bt - 6t$       A)  $(b - t)(y + 6)$       B)  $(b + 6)(y - t)$       C)  $(b - 6)(y + t)$       D)  $(b + y)(6 - t)$       4) \_\_\_\_\_

Perform the division.

5)  $\frac{x^3 + 27}{x + 3}$       A)  $x^2 - 3x - 9$       B)  $x^2 - 6x + 9$       C)  $x^2 + 3x + 9$       D)  $x^2 - 3x + 9$       5) \_\_\_\_\_

Multiply. Write the answer in lowest terms.

6)  $\frac{2t^2 - 3t - 9}{3t^2 - 4t - 7} \cdot \frac{3t^2 + 11t - 42}{t^2 + 3t - 18}$       A)  $\frac{(2t + 3)}{(t + 1)}$       B)  $\frac{(2t + 3)}{(t - 1)}$       C)  $\frac{(2t + 3)(t + 3)}{(t + 6)(3t - 7)}$       D)  $\frac{(2t + 3)(t + 6)}{(t + 1)(t - 6)}$       6) \_\_\_\_\_

Divide. Write the answer in lowest terms.

7)  $\frac{6z - y}{3x} \div \frac{2y - 12z}{3x - 18}$       A)  $\frac{6 - x}{2x}$       B)  $\frac{6 - x}{2}$       C)  $\frac{6}{x}$       D)  $-\frac{6}{2}$       7) \_\_\_\_\_

Perform the indicated operation and write the answer in lowest terms.

8)  $\frac{6x}{x + 5} + \frac{1}{x - 5}$       A)  $\frac{6x^2 - 29x + 5}{x^2 + 10x + 25}$       B)  $\frac{6x + 1}{(x + 5)(x - 5)}$       C)  $\frac{6x^2 - 29x + 5}{x^2 - 10x + 25}$       D)  $\frac{6x^2 - 29x + 5}{x^2 - 25}$       8) \_\_\_\_\_

Simplify the complex fraction.

$$9) \frac{\frac{6}{y}}{\frac{8}{y+9}}$$

9) \_\_\_\_\_

A)  $\frac{3(y+9)}{4y}$

B)  $\frac{y+9}{48y}$

C)  $48y(y+9)$

D)  $\frac{4y}{3(y+9)}$

$$10) \frac{\frac{1}{k+4} - \frac{3}{k-8}}{\frac{4}{k-8} + \frac{1}{k+3}}$$

10) \_\_\_\_\_

A)  $\frac{(-2k-20)(k-3)}{(k-4)(5k+4)}$

B)  $\frac{(-2k-20)}{(k+4)(5k+4)}$

C)  $\frac{(-2k-20)(k+3)}{(k+4)(5k+4)}$

D)  $\frac{(-2k-20)(k+3)}{(k+4)(5k-4)}$

## Answer Key

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- 1) B
- 2) A
- 3) C
- 4) B
- 5) D
- 6) A
- 7) A
- 8) D
- 9) A
- 10) C