

Factoring, Simplifying, LCD with Variables (Prerequisite Skills for Rational Equations) 1

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Factor completely.

1) $x^3 + 6x^2 - 72x$

1) _____

2) $3x^2 - 21x + 36$

2) _____

3) $2a^3 + 8a^2 - 10a$

3) _____

4) $4x^2 + 12x + 9$

4) _____

5) $6x^2 + 31x + 28$

5) _____

6) $3x^2 + 16x - 12$

6) _____

Simplify.

7) $\frac{a^2 - 2a}{(a + 6)(a - 2)}$

7) _____

8) $\frac{y^2 + 2y - 24}{y^2 + 4y - 32}$

8) _____

9) $\frac{-5x - 20}{6x + 24}$

9) _____

Find the least common denominator.

10) $\frac{-2}{r^2 + 3r}, \frac{-4}{4r + 12}, \frac{1}{r^2 + 6r + 9}$

10) _____

11) $\frac{7}{4xy}, \frac{9}{10x^2}$

11) _____

12) $\frac{9}{m^2 + 5m}, \frac{7}{m^2 + 6m + 5}$

12) _____

13) $\frac{4}{x^2 - 5x + 6}, \frac{7}{5x - 15}$

13) _____

14) $\frac{8}{t}, \frac{6}{t + 7}$

14) _____

Answer Key

Testname: RATPREREQ

1) $x(x + 12)(x - 6)$

2) $3(x - 3)(x - 4)$

3) $2a(a + 5)(a - 1)$

4) $(2x + 3)(2x + 3)$

5) $(6x + 7)(x + 4)$

6) $(x + 6)(3x - 2)$

7) $\frac{a}{a + 6}$

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

9) $-\frac{5}{6}$

10) $4r(r + 3)^2$

11) $20x^2y$

12) $m(m + 5)(m + 1)$

13) $5(x - 2)(x - 3)$

14) $t(t + 7)$