

To pass this test you can have at most one error. Simplify all expressions by factoring, finding common denominators, or writing as a rational expression.

1. $\frac{x^3 - 3x^2 - 40x}{x^2 + 10x + 25}$.
2. $\frac{2x^2 + 2x - 12}{x^2 + 3x - 4}$.
3. $\frac{3x^2 - 10x - 8}{16x^2 + 40x + 25} \cdot \frac{4x + 5}{x^2 - 8x + 16}$.
4. $\frac{x + 6}{x - 8} \div \frac{x + 5}{x^2 - 6x - 16}$.
5. $\frac{5}{x^2 - y^2} + \frac{3x}{x^3 + x^2y}$.
6. $\frac{3x - 8}{x^2 - 5x + 6} + \frac{x + 2}{x^2 - 6x + 8}$.
7. $\frac{5}{18x^2y^5} + \frac{7}{30x^3y^3}$.

Solutions

1. $\frac{x(x - 8)}{x + 5}$
2. $\frac{2(x + 3)(x - 2)}{(x + 4)(x - 1)}$
3. $\frac{3x + 2}{(4x + 5)(x - 4)}$
4. $\frac{(x + 6)(x + 2)}{x + 5}$
5. $\frac{8x - 3y}{x(x + y)(x - y)}$
6. $\frac{4x - 13}{(x - 4)(x - 3)}$
7. $\frac{25x + 21y^2}{90x^3y^5}$