Name_____ Pd_____ Partial Fractions Worksheet

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

Find the partial fraction decomposition.

1) $\frac{3x - 1}{x(x + 1)} = \frac{A}{x} + \frac{B}{x + 1}$ 1) _____

2) $\frac{x + 2}{x^2 - 1} = \frac{A}{x + 1} + \frac{B}{x - 1}$ 2) _____

3) $\frac{-7}{x(3x - 1)(x + 1)} = \frac{A}{x} + \frac{B}{3x - 1} + \frac{C}{x + 1}$ 3) _____

4) $\frac{5x - 2}{x^3 - 4x} = \frac{A}{x} + \frac{B}{x + 2} + \frac{C}{x - 2}$ 4) _____

5) $\frac{x - 1}{(x + 2)(x - 3)^2} = \frac{A}{x + 2} + \frac{B}{x - 3} + \frac{C}{(x - 3)^2}$ 5) _____

6) $\frac{x - 1}{x^3 - x^2 - 4x} = \frac{A}{x} + \frac{Bx + C}{x^2 - x - 4}$ 6) _____

7) $\frac{6x - 25}{(x + 4)(x - 3)}$ 7) _____

8) $\frac{13x - 31}{x^2 - 5x + 6}$ 8) _____

9) $\frac{5}{9x^2 - 25}$ 9) _____

10) $\frac{3x - 26}{(x - 7)^2}$ 10) _____

Use division to write the rational function in the form q(x) + r(x)/h(x), where the degree of r(x) is less than the degree of h(x). Then find the partial fraction decomposition of r(x)/h(x).

11) $\frac{3x^2 - x - 2}{x^2 - 4}$ 11) _____

12) $\frac{x^5 - 3x^4 + x^3 - 3x^2 - 6x - 1}{x^2 - 4x + 3}$ 12) _____