Name:
Box Number:

1. Find the value of the polynomial $x^3 y^3 + 3x^2 y^3 - 5x^2 y + xy - 3x + 4$ when x = 2 and y = –2.

2. Factor completely.

(a) $x^2 - 5x + 4$

(b) $3x^2 - 10xy - 8y^2$

(c) $x^2 - 4y^2$

(d) $1 - \dfrac{y^2}{9}$

3. Perform the indicated operations and simplify the expression.

(a) $\dfrac{2}{x-1} - \dfrac{1}{x^2 - 1}$

(b) $\dfrac{-2}{x} + \dfrac{1}{x-1} + \dfrac{1}{x+1}$

(c) $\dfrac{x^2 - 3x + 2}{x^2 + 5x + 4} \div \dfrac{x-1}{x+1}$

Answers

1. -126

2. (a) $(x-1)(x-4)$  (b) $(3x+2y)(x-4y)$  (c) $(x-2y)(x+2y)$  (d) $(1+\dfrac{y}{3})(1-\dfrac{y}{3})$

3. (a) $\dfrac{2x+1}{x^2-1}$  (b) $\dfrac{2}{x(x-1)(x+1)}$  (c) $\dfrac{x-2}{x+4}$