



## Rational Function Inequalities - Three Factors with Multiplicity over Binomial -

### Solution Set

1 Which set of values satisfies this inequality?

$$\frac{(x + 4)^2(x + 3)^5(x + 2)^5}{x - 3} < 0$$

- A  $(-\infty, -3) \cup (-3, -2) \cup (-2, 3) \cup (3, \infty)$  B  $(-\infty, -3) \cup (-2, 3)$   
 C  $(-3, -2) \cup (3, \infty)$  D  $(-4, -3) \cup (-2, 3)$

2 Which set of values satisfies this inequality?

$$\frac{(x + 3)^2(x + 2)^4(x - 3)^5}{x - 2} < 0$$

- A  $(-\infty, -3) \cup (2, 3)$  B  $(-\infty, 2) \cup (3, \infty)$   
 C  $(2, 3)$  D  $(-\infty, 2) \cup (2, 3) \cup (3, \infty)$

3 Which set of values satisfies this inequality?

$$\frac{(x + 3)^2(x - 1)(x - 3)^4}{x + 1} < 0$$

- A  $(-\infty, -3) \cup (-1, 1)$  B  $(-\infty, -1) \cup (1, \infty)$   
 C  $(-1, 1)$  D  $(-\infty, -1) \cup (-1, 1) \cup (1, \infty)$

4 Which set of values satisfies this inequality?  $\frac{(x + 3)^5 x^5 (x - 4)^4}{x + 4} > 0$

- A  $(-\infty, -4) \cup (-3, 0)$  B  $(-\infty, -4) \cup (-3, 0) \cup (4, \infty)$   
 C  $(-4, -3) \cup (0, \infty)$  D  $(-\infty, -4) \cup (-4, -3) \cup (-3, 0) \cup (0, \infty)$

5 Which set of values satisfies this inequality?

$$\frac{(x + 4)^2(x + 1)^5(x - 2)^2}{x - 3} > 0$$

- A  $(-\infty, -1) \cup (3, \infty)$  B  $(-1, 3)$   
 C  $(-\infty, -1) \cup (-1, 3) \cup (3, \infty)$  D  $(-4, -1) \cup (3, \infty)$

6 Which set of values satisfies this inequality?

$$\frac{(x + 1)^5(x - 3)^2(x - 4)^2}{x - 2} < 0$$

- A  $(-\infty, -1) \cup (-1, 2) \cup (2, \infty)$  B  $(-1, 2)$   
 C  $(-\infty, -1) \cup (2, 3)$  D  $(-\infty, -1) \cup (2, \infty)$

7 Which set of values satisfies this inequality?  $\frac{(x + 3)^5 x^4 (x - 1)}{x - 1} > 0$

- A  $(-\infty, -3) \cup (0, \infty)$  B  $(-\infty, -3)$   
 C  $(-\infty, -3) \cup (-3, \infty)$  D  $(-3, \infty)$

8 Which set of values satisfies this inequality?  $\frac{(x + 4)^5(x + 3)^2 x^5}{x - 2} < 0$

- A  $(-4, -3) \cup (0, 2)$  B  $(-\infty, -4) \cup (-4, 0) \cup (0, 2) \cup (2, \infty)$   
 C  $(-\infty, -4) \cup (0, 2)$  D  $(-4, 0) \cup (2, \infty)$