

**Determine intervals where a function is positive or negative****1**Is this polynomial positive or negative on the interval $(3, \infty)$?

$$(x - 1)(x - 3)$$

A

Negative

B

Positive

2Is this polynomial positive or negative on the interval $(-\infty, 2)$?

$$x^2 - 6x + 8$$

A

Positive

B

Negative

3

Which sign chart correctly shows the sign of this polynomial on each interval?

$$x^2 + 2x - 3$$

A

Interval	Sign
$(-\infty, -3)$	-
$(-3, 1)$	+
$(1, \infty)$	-

B

Interval	Sign
$(-\infty, -3)$	+
$(-3, 1)$	-
$(1, \infty)$	+

4Is this polynomial positive or negative on the interval $(-2, -1)$?

$$(x + 2)(x + 1)x$$

A

Negative

B

Positive

5Is this rational function positive or negative on the interval $(-2, \infty)$?

$$\frac{(x + 4)(x + 2)}{x + 4}$$

A

Negative

B

Positive

**Determine intervals where a function is positive or negative**

- 6 Which sign chart correctly shows the sign of this rational function on each interval?

$$\frac{(x+4)(x+1)}{x-3}$$

A

Interval	Sign
$(-\infty, -4)$	-
$(-4, -1)$	+
$(-1, 3)$	-
$(3, \infty)$	+

B

Interval	Sign
$(-\infty, -4)$	+
$(-4, -2)$	-
$(-2, -1)$	+
$(-1, 3)$	-
$(3, \infty)$	+

- 7 Is this rational function positive or negative on the interval $(-\infty, -4)$?

$$\frac{x^2 + 2x - 8}{x - 2}$$

A

Positive

B

Negative

- 8 Is this rational function positive or negative on the interval $(-1, 3)$?

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

A

Positive

B

Negative

- 9 On which set of open intervals does this polynomial keep a constant sign?

$$x^2 + 3x - 4$$

A $(-\infty, -4) \cup (-4, -3) \cup (-3, 1) \cup (1, \infty)$ B $(-\infty, -4) \cup (-4, -1) \cup (-1, 1) \cup (1, \infty)$ C $(-\infty, -4) \cup (-4, 1) \cup (1, \infty)$ D $(-\infty, -4) \cup (-4, -2) \cup (-2, 1) \cup (1, \infty)$

**Determine intervals where a function is positive or negative****10**

Which sign chart correctly shows the sign of this rational function on each interval?

$$\frac{x^2 + 3x + 2}{x - 4}$$

A

Interval	Sign
$(-\infty, -2)$	-
$(-2, -1)$	+
$(-1, 4)$	-
$(4, \infty)$	+

B

Interval	Sign
$(-\infty, -2)$	+
$(-2, -1)$	-
$(-1, 4)$	+
$(4, \infty)$	-

11

Which sign chart correctly shows the sign of this rational function on each interval?

$$\frac{(x - 1)(x - 2)(x - 3)}{x + 3}$$

A

Interval	Sign
$(-\infty, -3)$	-
$(-3, 1)$	+
$(1, 2)$	-
$(2, 3)$	+
$(3, \infty)$	-

B

Interval	Sign
$(-\infty, -3)$	+
$(-3, 1)$	-
$(1, 2)$	+
$(2, 3)$	-
$(3, \infty)$	+

**Determine intervals where a function is positive or negative****12**

On which set of open intervals does this rational function keep a constant sign?

$$\frac{x^2 + 7x + 12}{x + 1}$$

A

$$(-\infty, -4) \cup (-4, -3) \cup (-3, -1) \cup (-1, \infty)$$

B

$$(-\infty, -4) \cup (-4, -3) \cup (-3, -2) \cup (-2, -1) \cup (-1, \infty)$$

C

$$(-\infty, -4) \cup (-4, -3) \cup (-3, -1) \cup (-1, 1) \cup (1, \infty)$$

D

$$(-\infty, -4) \cup (-4, -3) \cup (-3, -1) \cup (-1, 0) \cup (0, \infty)$$

13

On which set of open intervals does this rational function keep a constant sign?

$$\frac{(x + 2)(x + 1)}{x - 2}$$

A

$$(-\infty, -2) \cup (-2, -1) \cup (-1, 0) \cup (0, 2) \cup (2, \infty)$$

B

$$(-\infty, -4) \cup (-4, -2) \cup (-2, -1) \cup (-1, 2) \cup (2, \infty)$$

C

$$(-\infty, -3) \cup (-3, -2) \cup (-2, -1) \cup (-1, 2) \cup (2, \infty)$$

D

$$(-\infty, -2) \cup (-2, -1) \cup (-1, 2) \cup (2, \infty)$$

**Determine intervals where a function is positive or negative****14**

Which set of values satisfies this inequality?

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

A

$$(-\infty, -4) \cup (-4, -3) \cup (-3, 1) \cup (1, \infty)$$

B

$$(-\infty, -4) \cup (-3, 1)$$

C

$$(-4, -3) \cup (1, \infty)$$

D

$$(-\infty, -4) \cup (-3, -2) \cup (1, \infty)$$

15

Which set of values satisfies this inequality?

$$(x+2)(x-1)(x-4) > 0$$

A

$$(-2, 1) \cup (4, \infty)$$

B

$$(-\infty, -2) \cup (-2, 1) \cup (1, 4) \cup (4, \infty)$$

C

$$(-\infty, -4) \cup (-2, 1) \cup (4, \infty)$$

D

$$(-\infty, -2) \cup (1, 4)$$

16

On which set of open intervals does this rational function keep a constant sign?

$$\frac{x(x-2)(x-4)}{x-2}$$

A

$$(-\infty, -4) \cup (-4, 0) \cup (0, 4) \cup (4, \infty)$$

B

$$(-\infty, 0) \cup (0, 4) \cup (4, \infty)$$

C

$$(-\infty, -3) \cup (-3, 0) \cup (0, 4) \cup (4, \infty)$$

D

$$(-\infty, 0) \cup (0, 2) \cup (2, 4) \cup (4, \infty)$$