



Determine intervals where a function is positive or negative

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

$$(x - 2)(x - 4)$$

A

Negative

B

Positive

- 2** Does the sign of this polynomial change at $x = -2$?

$$(x - 1)^4(x - 2)^3$$

A

No

B

Yes

- 3** Is this polynomial positive or negative on the interval $(-2, 0)$?

$$(x + 2)x(x - 3)$$

A

Negative

B

Positive

- 4** Is this rational function positive or negative on the interval $(3, \infty)$?

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

A

Positive

B

Negative

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

$$\frac{x^2 - 1}{x - 4}$$

A

Positive

B

Negative

- 6** Does the sign of this rational function change at $x = -4$?

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

A

Yes

B

No

- 7** Is this rational function positive or negative on the interval $(-\infty, -3)$?

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

A

Positive

B

Negative

- 8** Is this rational function positive or negative on the interval $(0, 1)$?

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

A

Positive

B

Negative

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

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

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

A

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

B

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

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

$$\frac{x^2 - 6x + 8}{x}$$

A

Interval	Sign
$(-\infty, 0)$	+
$(0, 2)$	-
$(2, 4)$	+
$(4, \infty)$	-

B

Interval	Sign
$(-\infty, 0)$	-
$(0, 2)$	+
$(2, 4)$	-
$(4, \infty)$	+

**Determine intervals where a function is positive or negative****11**

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

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

A

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

B

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

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

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

A

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

B

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

C

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

D

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

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Which set of values satisfies this inequality?

$$\frac{(x+4)(x-4)}{x+4} < 0$$

A

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

B

$$(-\infty, 4)$$

C

$$(4, \infty)$$

D

$$(-4, 4)$$

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

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

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

A

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

B

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

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Which set of values satisfies this inequality?

$$x(x-2)(x-4) < 0$$

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

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Which set of values satisfies this inequality?

$$(x+2)^2(x-1)^4(x-2)^3 < 0$$

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

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

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

A

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

B

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

C

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

D

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

**Determine intervals where a function is positive or negative****18**

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

$$(x + 4)x^2$$

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

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

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

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