



Rational Function Inequalities - Three Factors over Binomial - Inequality Validity Chart

1 Which chart correctly shows the intervals where this inequality is valid?

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

A

Interval	Valid
(-?, -1)	Yes
(-1, 4)	No
(4, ?)	Yes

B

Interval	Valid
(-?, -4)	Yes
(-4, -1)	No
(-1, 4)	Yes
(4, ?)	No

C

Interval	Valid
(-?, -1)	No
(-1, 4)	Yes
(4, ?)	No

D

Interval	Valid
(-?, -1)	Yes
(-1, 3)	No
(3, 4)	Yes
(4, ?)	No

2 Which chart correctly shows the intervals where this inequality is valid?

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

A

Interval	Valid
(-?, -4)	Yes
(-4, -3)	No
(-3, -1)	Yes
(-1, 3)	No
(3, ?)	Yes

B

Interval	Valid
(-?, -4)	No
(-4, -3)	Yes
(-3, -1)	No
(-1, 3)	Yes
(3, ?)	No

C

Interval	Valid
(-?, -4)	No
(-4, -3)	Yes
(-3, -1)	No
(-1, 0)	Yes
(0, 3)	No
(3, ?)	Yes

D

Interval	Valid
(-?, -4)	No
(-4, -3)	Yes
(-3, -2)	No
(-2, -1)	Yes
(-1, 3)	No
(3, ?)	Yes

3 Which chart correctly shows the intervals where this inequality is valid?

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

A

Interval	Valid
(-?, -2)	Yes
(-2, -1)	No
(-1, 0)	Yes
(0, 3)	No
(3, ?)	Yes

B

Interval	Valid
(-?, -4)	Yes
(-4, -2)	No
(-2, -1)	Yes
(-1, 0)	No
(0, 3)	Yes
(3, ?)	No

C

Interval	Valid
(-?, -2)	No
(-2, -1)	Yes
(-1, 0)	No
(0, 3)	Yes
(3, ?)	No

D

Interval	Valid
(-?, -3)	Yes
(-3, -2)	No
(-2, -1)	Yes
(-1, 0)	No
(0, 3)	Yes
(3, ?)	No

4 Which chart correctly shows the intervals where this inequality is valid?

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

A

Interval	Valid
(-?, -3)	Yes
(-3, -2)	No
(-2, -1)	Yes
(-1, 4)	No
(4, ?)	Yes

B

Interval	Valid
(-?, -4)	Yes
(-4, -3)	No
(-3, -2)	Yes
(-2, -1)	No
(-1, 4)	Yes
(4, ?)	No

C

Interval	Valid
(-?, -3)	Yes
(-3, -2)	No
(-2, -1)	Yes
(-1, 0)	No
(0, 4)	Yes
(4, ?)	No

D

Interval	Valid
(-?, -3)	No
(-3, -2)	Yes
(-2, -1)	No
(-1, 4)	Yes
(4, ?)	No

5 Which chart correctly shows the intervals where this inequality is valid?

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

A

Interval	Valid
(-?, -4)	Yes
(-4, -3)	No
(-3, -1)	Yes
(-1, ?)	No

B

Interval	Valid
(-?, -3)	Yes
(-3, -2)	No
(-2, -1)	Yes
(-1, ?)	No

C

Interval	Valid
(-?, -3)	Yes
(-3, -1)	No
(-1, ?)	Yes

D

Interval	Valid
(-?, -3)	No
(-3, -1)	Yes
(-1, ?)	No

6 Which chart correctly shows the intervals where this inequality is valid?

$$\frac{(x + 2)x(x - 4)}{x} > 0$$

A

Interval	Valid
(-?, -2)	No
(-2, 0)	Yes
(0, 4)	No
(4, ?)	Yes

B

Interval	Valid
(-?, -2)	Yes
(-2, 4)	No
(4, ?)	Yes

C

Interval	Valid
(-?, -2)	No
(-2, 4)	Yes
(4, ?)	No

D

Interval	Valid
(-?, -4)	No
(-4, -2)	Yes
(-2, 4)	No
(4, ?)	Yes

7 Which chart correctly shows the intervals where this inequality is valid?

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

A

Interval	Valid
(-?, -2)	No
(-2, -1)	Yes
(-1, 3)	No
(3, 4)	Yes
(4, ?)	No

B

Interval	Valid
(-?, -2)	Yes
(-2, -1)	No
(-1, 3)	Yes
(3, 4)	No
(4, ?)	Yes

C

Interval	Valid
(-?, -3)	No
(-3, -2)	Yes
(-2, -1)	No
(-1, 3)	Yes
(3, 4)	No
(4, ?)	Yes

D

Interval	Valid
(-?, -4)	No
(-4, -2)	Yes
(-2, -1)	No
(-1, 3)	Yes
(3, 4)	No
(4, ?)	Yes

8 Which chart correctly shows the intervals where this inequality is valid?

$$\frac{(x + 2)(x + 1)x}{x + 2} < 0$$

A

Interval	Valid
(-?, -4)	Yes
(-4, -1)	No
(-1, 0)	Yes
(0, ?)	No

B

Interval	Valid
(-?, -1)	No
(-1, 0)	Yes
(0, ?)	No

C

Interval	Valid
(-?, -2)	Yes
(-2, -1)	No
(-1, 0)	Yes
(0, ?)	No

D

Interval	Valid
(-?, -1)	Yes
(-1, 0)	No
(0, ?)	Yes