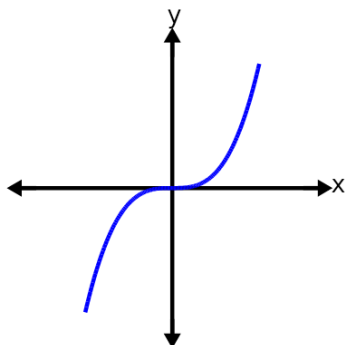
**Determine end behaviour of a function****1**

What end behaviour does this graph show?



A

$$\text{as } x \rightarrow -\infty, y \rightarrow -\infty$$
$$\text{as } x \rightarrow \infty, y \rightarrow \infty$$

B

$$\text{as } x \rightarrow -\infty, y \rightarrow \infty$$
$$\text{as } x \rightarrow \infty, y \rightarrow -\infty$$
4

A function with which highest power and leading coefficient would have this end behaviour?

$$\text{as } x \rightarrow -\infty, y \rightarrow \infty$$
$$\text{as } x \rightarrow \infty, y \rightarrow -\infty$$

A

highest power = 4
leading coefficient = -3

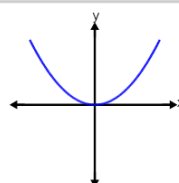
B

highest power = 5
leading coefficient = -3**2**

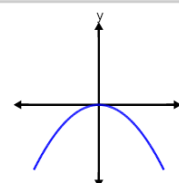
Which graph shows this end behaviour?

$$\text{as } x \rightarrow -\infty, y \rightarrow \infty$$
$$\text{as } x \rightarrow \infty, y \rightarrow \infty$$

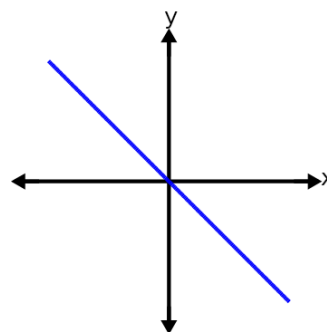
A



B

**3**

Which highest power and leading coefficient would create a graph with this end behaviour?



A

highest power = 1
leading coefficient = 3

B

highest power = 1
leading coefficient = -3**5**

What does this end behaviour tell us about a function's highest power and leading coefficient?

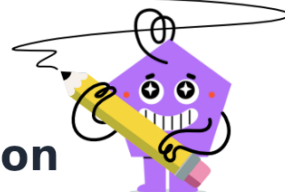
$$\text{as } x \rightarrow -\infty, y \rightarrow -\infty$$
$$\text{as } x \rightarrow \infty, y \rightarrow -\infty$$

A

highest power = even
leading coefficient = positive

B

highest power = even
leading coefficient = negative

**Determine end behaviour of a function****6**

How would this highest power and leading coefficient be described when analyzing end behaviour?

A

highest power = odd
leading coefficient = negative

B

highest power = even
leading coefficient = negative

7

What end behaviour would this power and coefficient create?

A

$$\text{as } x \rightarrow -\infty, y \rightarrow \infty$$

$$\text{as } x \rightarrow \infty, y \rightarrow \infty$$

B

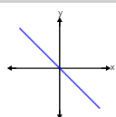
$$\text{as } x \rightarrow -\infty, y \rightarrow \infty$$

$$\text{as } x \rightarrow \infty, y \rightarrow -\infty$$

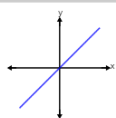
8

Which graph's end behaviour would this power and coefficient create?

A



B

**9**

Which function (based on its powers and coefficients) would have this end behaviour?

$$\text{as } x \rightarrow -\infty, y \rightarrow -\infty$$

$$\text{as } x \rightarrow \infty, y \rightarrow \infty$$

A

$$f(x) = 2x^5 - 5x^4 - 5x^3$$

B

$$f(x) = -2x^5 - 5x^4 - 5x^3$$

10

What end behaviour criteria is correct for this function?

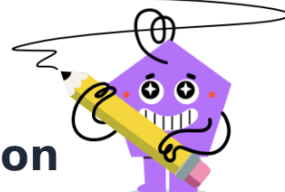
$$f(x) = 4x^4 - 2x^3 - 2x^2$$

A

highest power = odd
leading coefficient = positive

B

highest power = even
leading coefficient = positive

**Determine end behaviour of a function****11**

Which highest power and leading coefficient fits this end behaviour description?

A

highest power = 7
leading coefficient = 3

B

highest power = 7
leading coefficient = -3

14

Based on the order of polynomials in the numerator and denominator, what type of horizontal or slant asymptotes would this expression have?

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

A

Horizontal asymptote (at zero)

B

No horizontal or slant asymptote

C

Slant asymptote

D

Horizontal asymptote (not at zero)

12

What end behaviour would this function have?

$$f(x) = -5x^7 - 4x^6 - 4x^5$$

A

as $x \rightarrow -\infty, y \rightarrow \infty$
as $x \rightarrow \infty, y \rightarrow \infty$

B

as $x \rightarrow -\infty, y \rightarrow \infty$
as $x \rightarrow \infty, y \rightarrow -\infty$

13

What end behaviour would this power and coefficient create?

A

as $x \rightarrow -\infty, y \rightarrow \infty$
as $x \rightarrow \infty, y \rightarrow \infty$

B

as $x \rightarrow -\infty, y \rightarrow -\infty$
as $x \rightarrow \infty, y \rightarrow \infty$