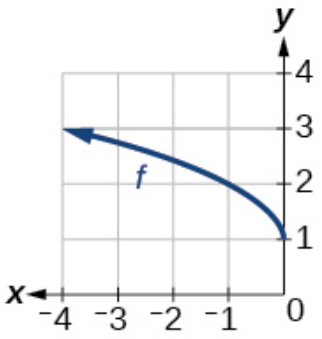
(QUES-17753)

The graph shows a transformation of a toolkit function.



Which equation describes the graph?

- $f(x) = \sqrt{-x} + 1$
- $f(x) = \sqrt{x} + 1$
- $f(x) = -\sqrt{-x} + 1$
- $f(x) = \sqrt{-x} - 1$

6.0 points possible (graded, results hidden)

(QUES-17752)

Use the given polynomial function to answer the questions.

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

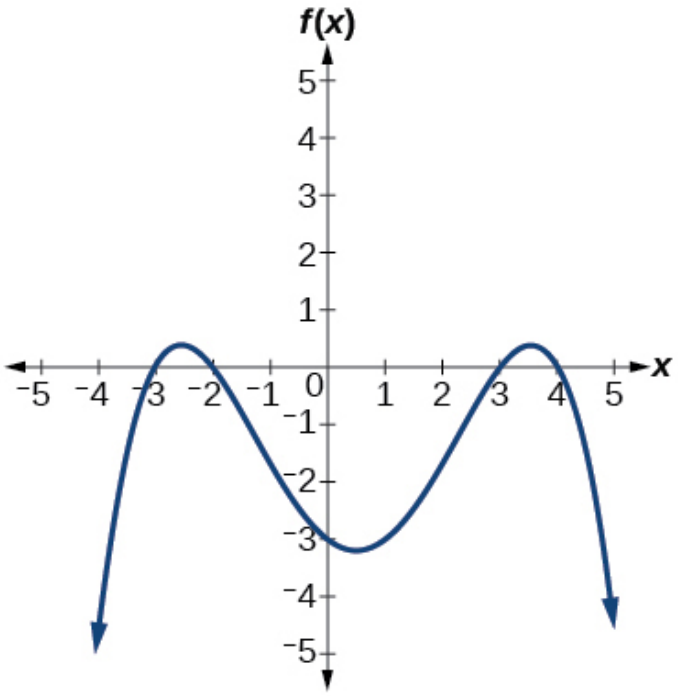
What is the degree of the polynomial?

What is the leading coefficient?

Which describes the end behavior of the function?

- As $x \to -\infty, f(x) \to \infty$; as $x \to \infty, f(x) \to \infty$
- As $x \to -\infty, f(x) \to -\infty$; as $x \to \infty, f(x) \to \infty$
- As $x \to -\infty, f(x) \to -\infty$; as $x \to \infty, f(x) \to -\infty$
- As $x \to -\infty, f(x) \to \infty$; as $x \to \infty, f(x) \to -\infty$

Use the graph to identify the formula for a polynomial function of least degree.



$f(x) =$

Click HERE for a math equation input format guide. You can't use implicit multiplication in

(QUES-17755)

Use the quadratic function h to answer the questions.

$$h(x) = 2x^2 + 4x - 7$$

What is the vertex of the graph?

(,)

What is the standard form of the function?

- $h(x) = 2(x+1)^2 + 9$
- $h(x) = -2(x-1)^2 + 9$
- $h(x) = -2(x+1)^2 - 9$
- $h(x) = 2(x-1)^2 - 9$
- $h(x) = 2(x+1)^2 - 9$

Give the x- and y-intercepts, multiplicities, and end behavior for the polynomial function.

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

The leftmost negative x-intercept is at $x =$

with multiplicity

.

There is another negative x-intercept at $x =$

with multiplicity

.

The remaining x-intercept is at $x =$

.

The remaining x-intercept is at $x =$

with multiplicity

.

At the y-intercept, $y =$

.

Which describes the end behavior?

- As $x \to -\infty, f(x) \to -\infty$; as $x \to \infty, f(x) \to -\infty$
- As $x \to -\infty, f(x) \to \infty$; as $x \to \infty, f(x) \to \infty$
- As $x \to -\infty, f(x) \to \infty$; as $x \to \infty, f(x) \to -\infty$
- As $x \to -\infty, f(x) \to -\infty$; as $x \to \infty, f(x) \to \infty$

Q6

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6.0 points possible (graded, results hidden)

(QUES-17751)

Use long division to find the quotient and remainder.

$$(2x^2 + 16x + 14) \div (x + 7)$$

What is the quotient?

What is the remainder?

Use the Factor Theorem to find all real zeros for the given polynomial function and one factor.

For a square root of a number, enter $\mathbf{sqrt}$ followed by the number in parentheses. For example, enter $\mathbf{sqrt}\,(2)$ for $\sqrt{2}$.

$$f(x) = x^3 + 5x^2 - 3x - 15; \quad x + 5$$

What zero corresponds to the factor $x + 5$?

$x =$

What is the other positive zero?

$x =$

What is the remaining zero?

$x =$

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You have used 0 of 3 attempts