Graded Assignment

Unit Test, Part 2: Polynomials and Power Functions

Answer the questions. When you are finished, submit this assignment to your teacher by the due date for full credit.

Total score: ____ of 25 points

(Score for Question 1: ___ of 8 points)

Solve the equation $2x^2 + 10x = 0$. Check your solution(s) and state the final solution set. Show all your work.

Answer:

$$2x^2 + 10x = 0$$

$$2x(x + 5) = 0$$

$$\frac{2x}{2} = \frac{0}{2} \qquad x + 5 = 0$$

$$-5 \quad -5$$

$$x = 0 \qquad x = -5$$

Check

$$2(0) + 10(0) = 0$$

$$2(25) + 10(-5) = 0$$

Solutions $\{0, -5\}$

(Score for Question 2: ___ of 8 points)

Use successive differences to classify the function represented in the table. Show all your work.

x	-2	-1	0	1	2
$h(x)$	14	5	2	5	14

Answer:

$-9 \quad -3 \quad 3 \quad 9$

$f(x) = ax^2 + 2$

$f(1) = 5 \rightarrow 5 = a + 2$

$a = 3$

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

(Score for Question 3: ___ of 9 points)

For the function $f(x) = -2x^4$, do the following:

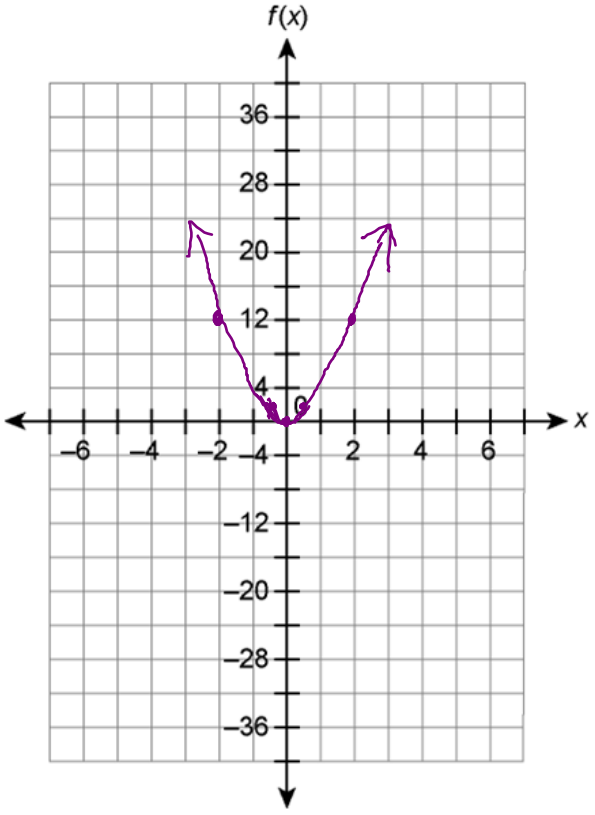
(a) Complete a table of values containing at least five points.

(b) Sketch the function on the coordinate plane.

(c) Describe the function's end behavior.

Answer:

x	–2	–1	0	1	2
$f(x)$	−12	−2	0	−2	−12



c) End Behavior : Both ends rise.

Or as $x \to \pm\infty$, $f(x) \to \infty$