Name **MAT 231**
Date **Homework Assignment 2**

Chapter 1.2 –Graphs of Equations

Directions: Provide complete responses to each question. Make sure to show all your work.

1. . Determine which of the following points lies on the graph of the equation.

$y = \sqrt{x+62}$

$10 = \sqrt{2+62}$
$9 = \sqrt{2+62}$ $= \sqrt{64}$
$8 = \sqrt{2+62}$

a. (2, 10)

b. (2, 9)

c. (2, 8)

d. (9, 8)

e. (3, 8)

2. Determine which of the following points lies on the graph of the equation.

$y = |x - 2| + 4$

$7 = |5-2| + 4$
$7 = 3 + 4$

a. (5, 7)

b. (5, 9)

c. (5, 8)

d. (8, 7)

e. (6, 7)

3. Which of the following graphs is symmetric about the *y*-axis?

a. $y = x^7 - x^6 + 18$

b. $y = x^7 - x^{12} + 18$

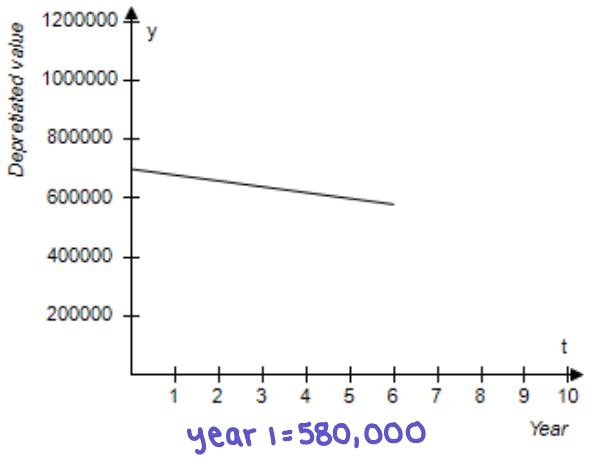
c. $y = x^9 - x^7 + 18$

d. $y = x^{12} - x^6 + 18$

e. $y = x^9 + x^7 + 18$

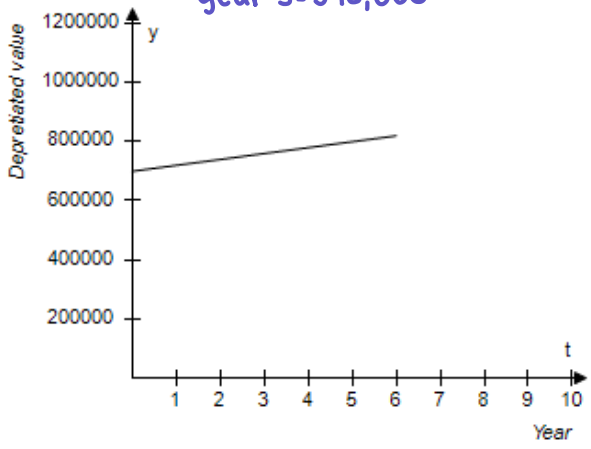
4. A hospital purchases a new magnetic resonance imaging (MRI) machine for $600,000. The depreciated value y (reduced value) after t years is given by $y = 600{,}000 - 20{,}000t$, $0 \le t \le 6$. Sketch the graph of the equation.

a.

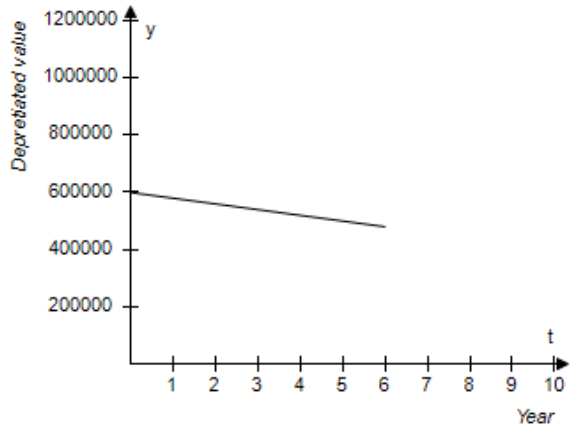


year 1 = 580,000
year 2 = 560,000
year 3 = 540,000

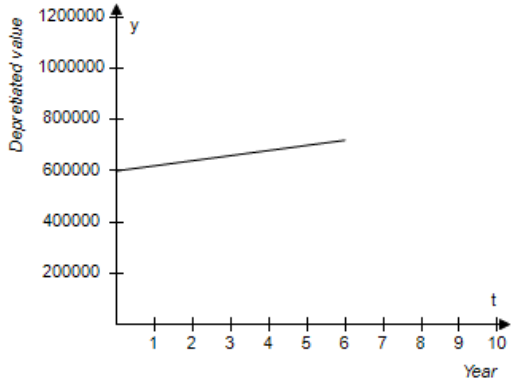
b.



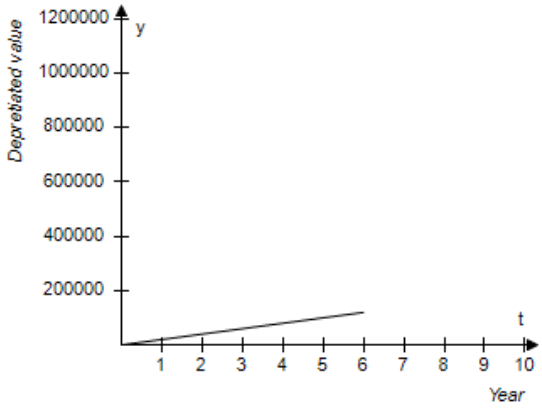
c.



d.



e.



5. Find the x-intercept of the graph of the equation $y = 3x + 15$.

a. (0, -5)

b. (0, 15)

x-intercept $y=0$

$3x+15=0$

$3x=-15$

$x=-5$

$(-5,0)$

c. (15, 0)

d. (0, 3)

e. (-5, 0)