See ANSWERS below on PAGE 3

Match each graph to its equation for problems 1-5.

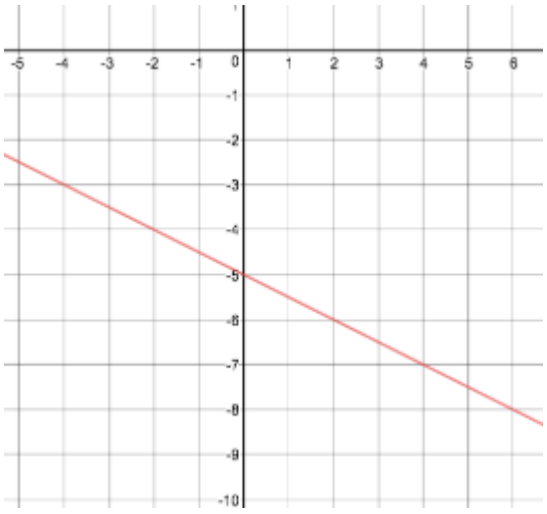
1) $y = -2x + 5$

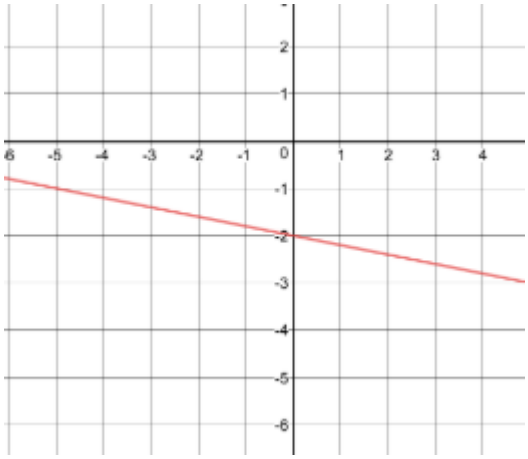
2) $y = -5 - \frac{1}{2}x$

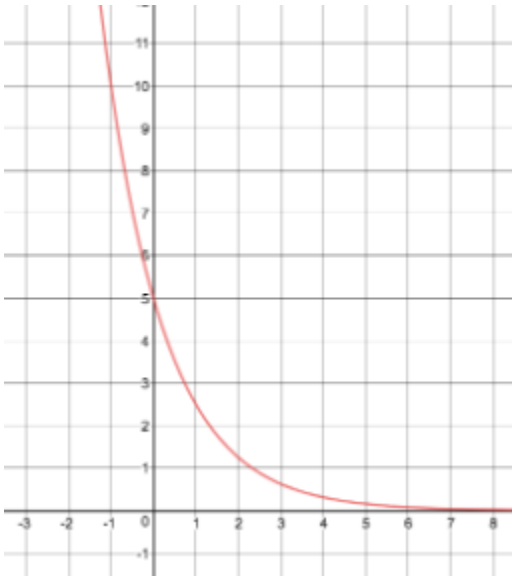
3) $y = \frac{1}{2}x + 5$

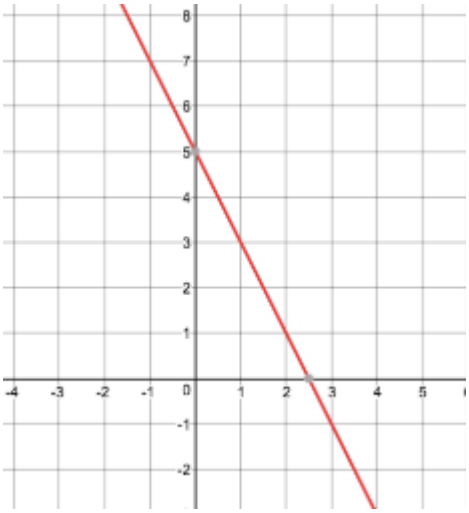
4) $y = 5(1/2)^x$

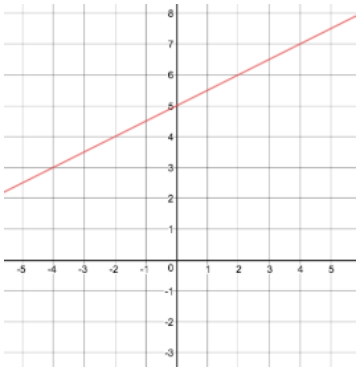
5) $x + 5y = -10$

A) 

B) 

C) 

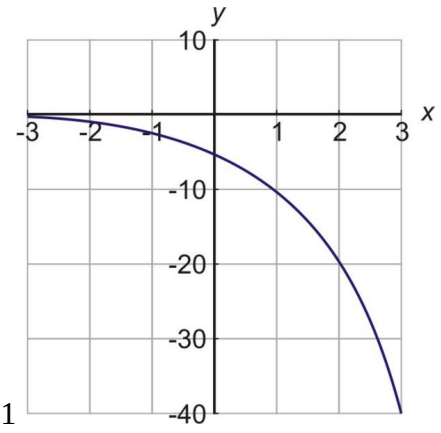
D) 

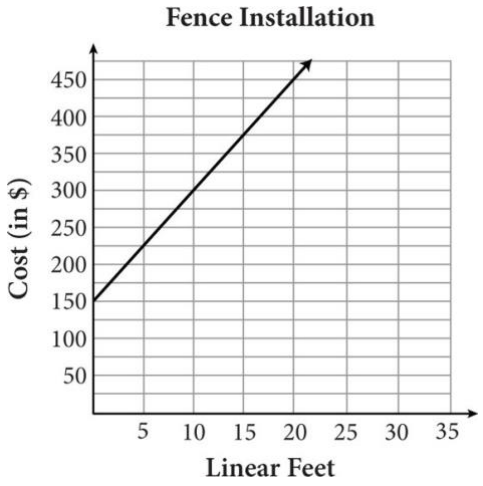
E) 

6) Find the value of each if $g(t)= 10(1.8)^x$

a) g(4) b) g(0) c) g(-1)

7) Using the two graphs below. What is the difference in their y-intercepts between graph 1 and graph 2?

Graph 1 

Graph 2 

Create an equation for the following problems, then answer the question asked.

8) A cable company charges $50 for the setup fee and $148 a month for service. If a customer signed a 2 year contract, how much total would he have to pay to this company?

9) Andrew bought a car that costs $24,000. If the car depreciates linearly each year by $400, then how many years will it take for the car to be less than 1/2 of its original value?

Answers:

1. D
y-int = 5 slope = -2 $y = -2x + 5$

2. A
y-int = -5 slope = $-1/2$ $y = -5 - \frac{1}{2}x$

3. E
y-int = 5
slope = $1/2$ $y = \frac{1}{2}x + 5$

4. C
exponential function y-int = initial value = 5
decay function

5. B
$x + 5y = -10$
$-x \quad -x$
$\frac{5y}{5} = \frac{-x-10}{5}$ $y = -\frac{1}{5}x - 2$ y-int = -2
slope = $-1/5$

6. a. 104.976, b. 10, c. 5.556
a) $g(4) = 10(1.8)^4 = \boxed{104.976}$ b) $g(0) = 10(1.8)^0 = \boxed{10}$
c) $g(-1) = 10(1.8)^{-1} = \boxed{5.556}$

7. 155
Graph 1 y-int = -5 Graph 2 y-int = 150
$150 - -5 = \boxed{155}$

8. y = 148x + 50; $3602
initial setup charge = 50 (y-int)
$148/month = slope
$y = mx + b \Rightarrow \boxed{y = 148x + 50}$
2yr contract = 24 months
$y = 148(24) + 50 = \boxed{\$3602}$

9. y = -400x + 24000; 31 years
car = 24000 (y-int)
depreciates -$400/yr (slope)
$\boxed{y = -400x + 24000}$
1/2 value = 12,000
less than 1/2
$\boxed{31 \text{ yrs}}$
$12{,}000 = -400x + 24000$
$-24000 \quad -24000$
$\frac{-12{,}000}{-400} = \frac{-400x}{-400}$ $x = 30$