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Class Name : **MATH 1050/1051 Fall 2019**

Review Questions

1. Find the first four terms of the sequence given by the following.

$$a_n = (-1)^{n+1} \cdot 2n^2 \ , \ n = 1, 2, 3, \ldots$$

2. For a given arithmetic sequence, the first term, a_1, is equal to -23, and the 30^{th} term, a_{30}, is equal to -110.

Find the value of the 11^{th} term, a_{11}.

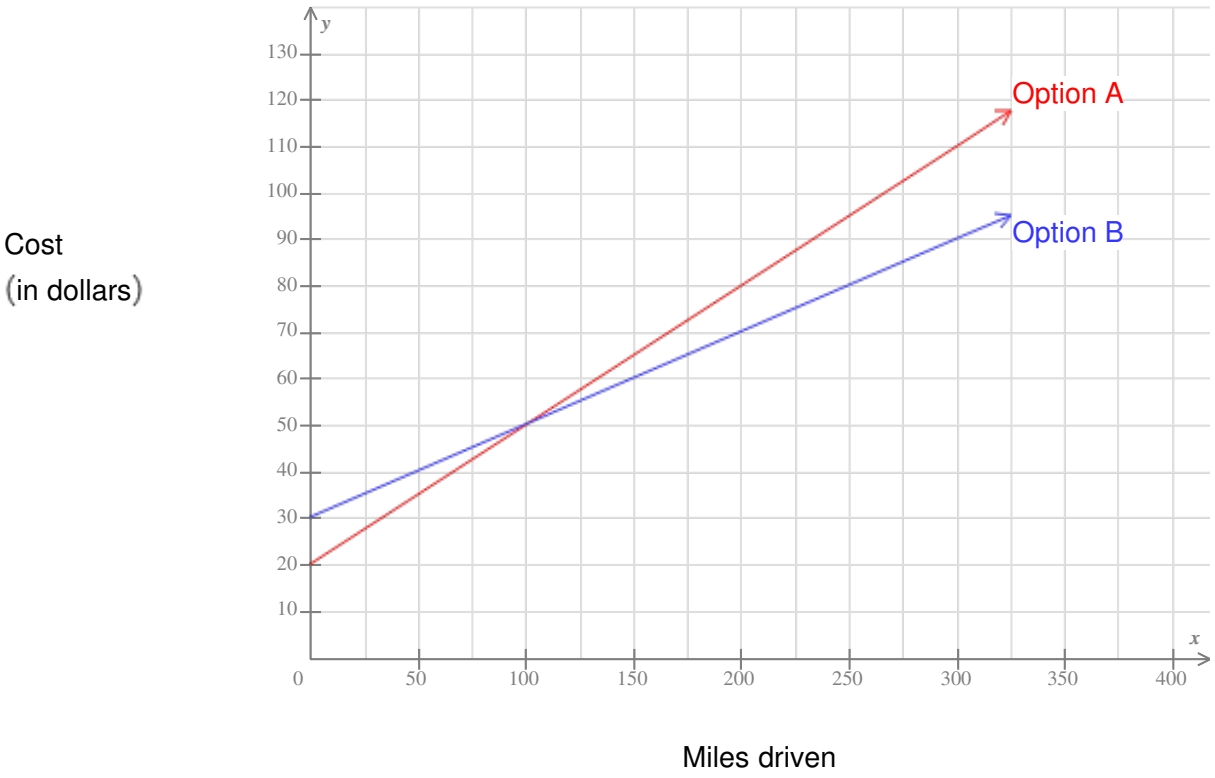
3. Factor completely.

$$5w^3 - 20w^2 + 20w$$

4. Suppose that there are two types of tickets to a show: advance and same-day. The combined cost of one advance ticket and one same-day ticket is $\$35$. For one performance, 20 advance tickets and 35 same-day tickets were sold. The total amount paid for the tickets was $\$925$. What was the price of each kind of ticket?

Advance ticket:
Same-day ticket:

5. Chau will rent a car for a day. The rental company offers two pricing options: Option A and Option B. For each pricing option, cost (in dollars) depends on miles driven, as shown below.



(a) If Chau drives the rental car 200 miles, which option costs less?

○ Option A ○ Option B

How much less does it cost than the other option?

$\$$_____

(b) For what number of miles driven do the two options cost the same?

_____

If Chau drives less than this amount, which option costs less?

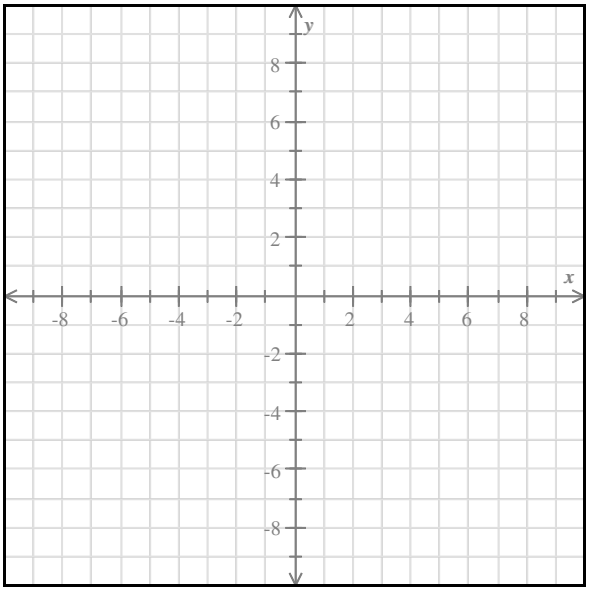
○ Option A ○ Option B

6. Solve for a.

$$m = \frac{kF}{a}$$

7. Graph the inequality.

$$y \geq -5x - 1$$



8. Multiply and simplify.

$$(3\sqrt{x}+\sqrt{3})^2 = \square$$
$$(\sqrt{x}+\sqrt{3})(\sqrt{x}-\sqrt{3}) = \square$$

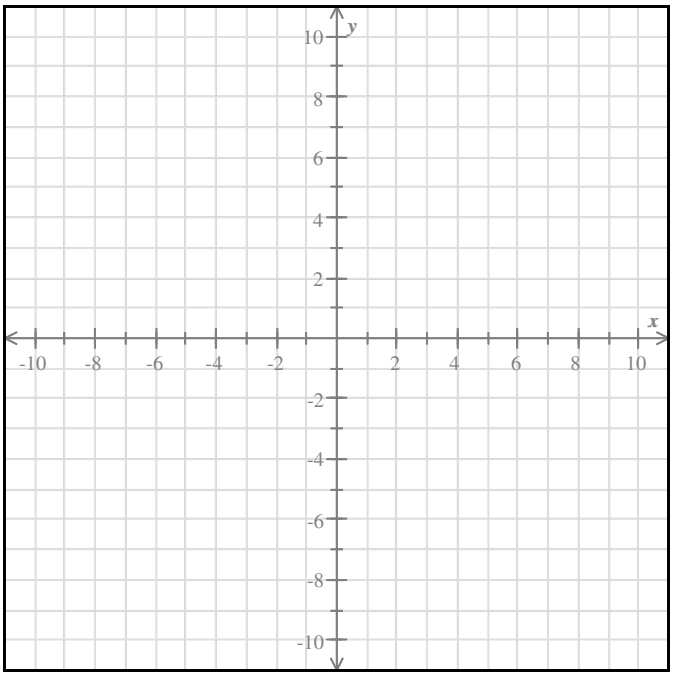
9. The equation of a line is given below.

$$-3x+y=-1$$

Find the slope and the y-intercept.
Then use them to graph the line.

slope: _____

y-intercept: _____



10. Suppose that the functions f and g are defined for all real numbers x as follows.

$$f(x)=x-4$$
$$g(x)=4x-2$$

Write the expressions for $(g+f)(x)$ and $(g-f)(x)$ and evaluate $(g\cdot f)(4)$.

$(g+f)(x)$
$(g-f)(x)$
$(g\cdot f)(4)$