
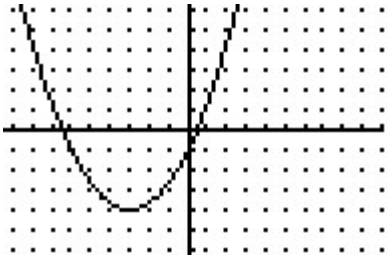
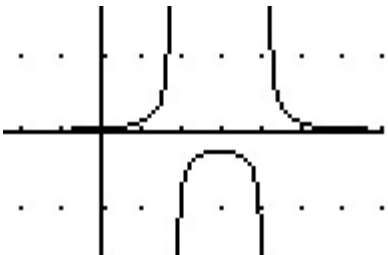
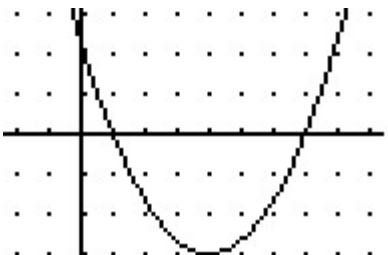


Question 1: Which of the following could be the graph of $f(x) = \frac{1}{3}(x - 3)^2 - 4$?

<p>A</p>		<p>Correct. The parabola is wider than the parent graph and has been translated 3 units to the right and 4 units down.</p>
<p>B</p>		<p>Incorrect. Since $h = 3$ in the equation, the graph should have shifted 3 units to the right.</p>
<p>C</p>		<p>Incorrect. The graph of a quadratic function is a parabola.</p>
<p>D</p>		<p>Incorrect. Since $h=3$ and $k= - 4$ in the equation, the graph should have shifted 3 units to the right and 4 units down.</p>

Question 2: Which of the tables shown below represent the ordered pairs that lie on the graph of $y = 2x^2 - x - 1$?

A	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr><th>x</th><th>y</th></tr> </thead> <tbody> <tr><td>-2</td><td>-3</td></tr> <tr><td>-1</td><td>-2</td></tr> <tr><td>0</td><td>1</td></tr> <tr><td>1</td><td>1</td></tr> </tbody> </table>	x	y	-2	-3	-1	-2	0	1	1	1	Incorrect. Did you substitute and simplify correctly?
x	y											
-2	-3											
-1	-2											
0	1											
1	1											
B	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr><th>x</th><th>y</th></tr> </thead> <tbody> <tr><td>-1</td><td>0</td></tr> <tr><td>0</td><td>-1</td></tr> <tr><td>1</td><td>0</td></tr> <tr><td>2</td><td>1</td></tr> </tbody> </table>	x	y	-1	0	0	-1	1	0	2	1	Incorrect. Did you substitute and simplify correctly?
x	y											
-1	0											
0	-1											
1	0											
2	1											
C	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr><th>x</th><th>y</th></tr> </thead> <tbody> <tr><td>-4</td><td>19</td></tr> <tr><td>-2</td><td>5</td></tr> <tr><td>0</td><td>-1</td></tr> <tr><td>2</td><td>1</td></tr> </tbody> </table>	x	y	-4	19	-2	5	0	-1	2	1	Incorrect. Did you substitute and simplify correctly?
x	y											
-4	19											
-2	5											
0	-1											
2	1											
D	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr><th>x</th><th>y</th></tr> </thead> <tbody> <tr><td>-6</td><td>77</td></tr> <tr><td>-3</td><td>20</td></tr> <tr><td>0</td><td>-1</td></tr> <tr><td>3</td><td>14</td></tr> </tbody> </table>	x	y	-6	77	-3	20	0	-1	3	14	Correct. All of these points lie on the graph of $y = 2x^2 - x - 1$
x	y											
-6	77											
-3	20											
0	-1											
3	14											

Question 3: Which of the following statements best represents the quadratic function $y = 2x^2 + 8x - 10$?

A	The vertex is at (-4, -10) and the axis of symmetry is $x = -4$	Incorrect. Remember that the formula to find the x-coordinate of the vertex and the axis of symmetry is $x = -\frac{b}{2a}$
B	The vertex is at (2, 14) and the axis of symmetry is $x = 2$	Incorrect. Remember that the formula to find the x-coordinate of the vertex and the axis of symmetry is $x = -\frac{b}{2a}$
C	The vertex is at (-2, -18) and the axis of symmetry is $x = -2$	Correct. The parabola opens up and the lowest point is at (-2, -18). The vertical line that passes through this point is $x = -2$.

D	The vertex is at (-2, -18) and the axis of symmetry is $y = -18$	Incorrect. The line $y = -18$ is horizontal. The axis of symmetry for a parabola must be vertical.
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Question 4: During a football game a punter kicked the ball. The path the football traveled during the kick can be modeled using the equation $y = -.035x^2 + 1.6x + 1$, where x measures the distance in yards the football travels and y measures the height of the football in yards. What is the maximum height of the football during the punt?

A	17 yards	Correct. Since the parabola opens down, the maximum height occurs at the y -coordinate of the vertex.
B	20 yards	Incorrect. Remember that the maximum height is represented by the y -coordinate of the vertex.
C	40 yards	Incorrect. Remember that the maximum height is represented by the y -coordinate of the vertex.
D	41 yards	Incorrect. Remember that the maximum height is represented by the y -coordinate of the vertex.

Question 5: During the 4th of July celebration, Sam lit a rocket and it shot into the air. The height of the rocket during its flight can be modeled by the equation $f(t) = -16t^2 + 80t$ where t represents the time in seconds after the rocket flew into the air and $f(t)$ represents the height in feet of the rocket at time t . At what time was the rocket 64 feet above the ground?

A	After 1 second	Incorrect. Your answer is partially correct. At $t = 1$ second, the rocket is at a height of 64 feet on its way <u>up</u> .
B	After 2.5 seconds	Incorrect. The rocket reaches its maximum height of <u>100</u> feet at $t = 2.5$ seconds.
C	After 4 seconds	Incorrect. Your answer is partially correct. At $t = 4$ seconds, the rocket is at a height of 64 feet on its way <u>down</u> .
D	After 1 and 4 seconds.	Correct. Since the rocket reaches a maximum height of 100 feet, it must be 64 feet above the ground twice, once on the way up and again on the way down.