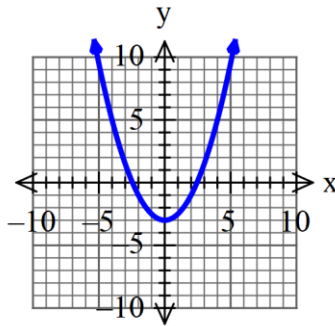


SM3 Unit 4B test review answers

1. Quadratic, vertical dilation by a factor of $\frac{1}{2}$, translate down 3

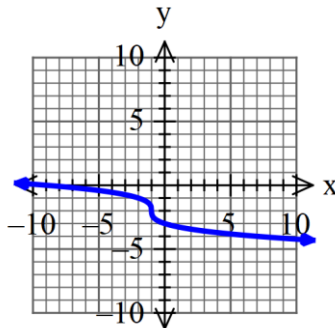
x	$\frac{1}{2}f(x) - 3$
-2	-1
-1	$-2\frac{1}{2}$
0	-3
1	$-2\frac{1}{2}$
2	-1



Domain: $(-\infty, \infty)$ Range: $[-3, \infty)$

2. Cube root, reflect over x-axis, translate left 1, down 2

$x - 1$	$-f(x) - 2$
-9	0
-2	-1
-1	-2
0	-3
7	-4



Domain: $(-\infty, \infty)$ Range: $(-\infty, \infty)$

3. $f(x) = (x + 2)^2 - 1$

4. $f(x) = 3\sqrt{x + 5} + 1$

5. $f(x) = -\frac{1}{2}|x| - 1$

6. $g(x) = \sqrt{-(x + 2)} + 5$

7. $g(x) = 3\sqrt[3]{x - 4} - 2$

8. $g(x) = \left(\frac{1}{3}(x - 6)\right) - 7$

9. $g(x) = -x^3 + 4$

10.

Matching Function Number	Situation
<u>2</u>	The salesperson has an excellent year and sales 3 times as much.
<u>1</u>	The salesperson makes 3 additional sales the last day of the year.
<u>3</u>	The salesperson is salesperson of the week and receives a 3 dollar bonus.

Function	Transformation
1. $S = f(x + 3)$	Add 3 to total sales OR translate left 3
2. $S = f(3x)$	Times sale by 3 OR horizontal dilation of $\frac{1}{3}$
3. $S = f(x) + 3$	Add 3 to total salary OR translate up 3