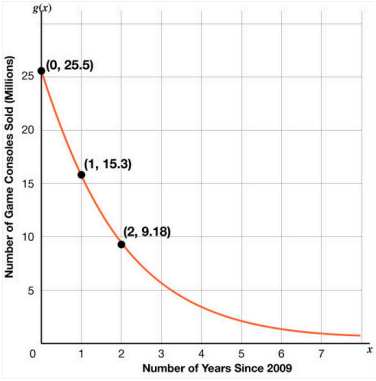
Unit 5 STAAR Review

	Question	TEKS	Exam/ Question#	Unit
1	The graph shows the number of game consoles sold in millions since 2009.  Based on this information, which function best models the number of game consoles sold, in millions, x years since 2009? **A** $g(x) = 25.5(6.12)^x$ **B** $g(x) = 6.12(25.5)^x$ [correct answer] **C** $g(x) = 0.6(25.5)^x$ **D** $g(x) = 25.5(0.6)^x$	A.9(C)	2021/ Question#11	5
2	Which expression is equivalent to $(x^9yz^4)^5$? **A** $x^{14}y^6z^9$ **B** $x^{14}y^5z$ **C** $x^{45}yz^{20}$ **D** $x^{45}y^5z^{20}$ [correct answer]	A.11(B)	2021/ Question#8	5

	Question	TEKS	Exam/ Question#	Unit
3	A conservation agency tracks the sea turtle population by counting the number of nesting sites where the turtles lay their eggs. The table shows the numbers of nesting sites for several years since 2001. The data can be modeled by an exponential function. Which function best models the data? **A** $n(x) = 25,956.80(1.08)^x$ **B** $n(x) = 46,797.94(0.93)^x$ [correct answer] **C** $n(x) = 1.08(25,956.80)^x$ **D** $n(x) = 0.93(46,797.94)^x$	A.9(E)	2021/ Question#21	5

Number of Years Since 2001 x	Number of Nesting Sites $n(x)$
1	46,125
2	37,994
3	40,513
4	29,368
5	34,082
6	31,746
7	27,691

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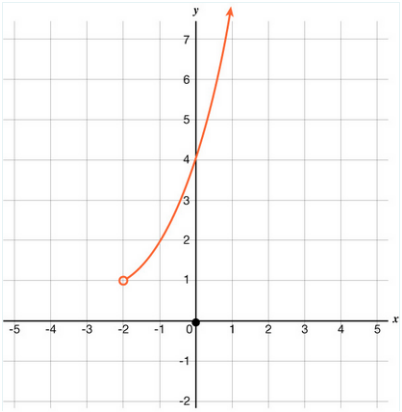
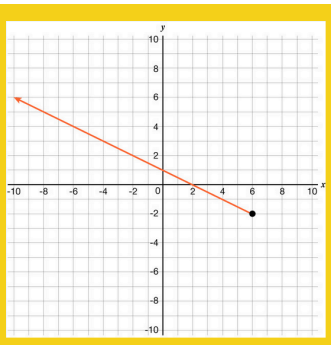
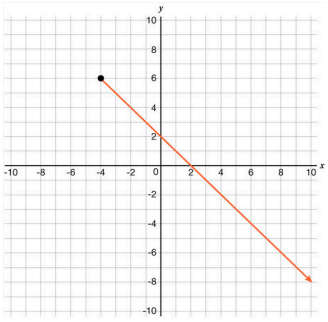
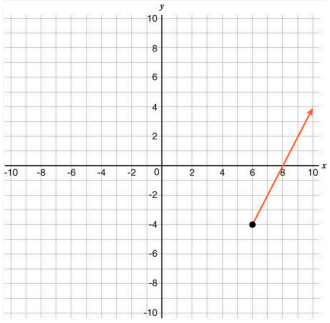
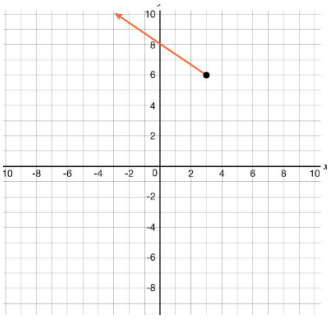
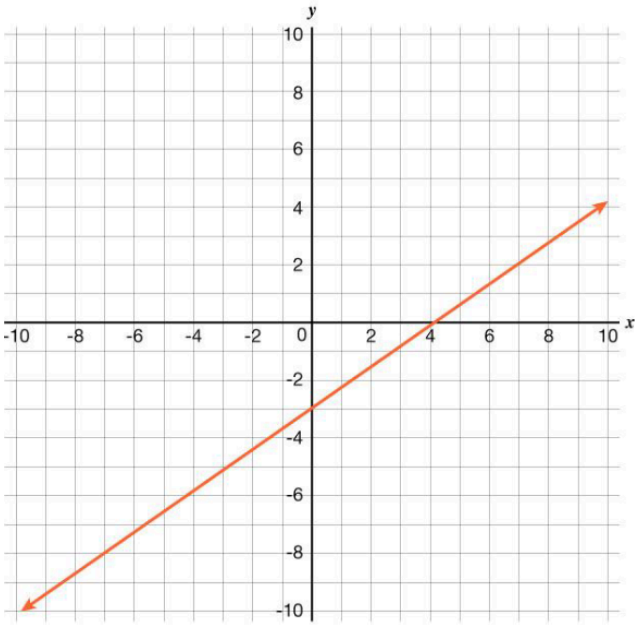
4	The table represents some points on the graph of an exponential function. x | $f(x)$ 2 | 36 3 | 54 4 | 81 5 | 121.5 6 | 128.25 Which function represents this relationship? **A** $f(x) = 16(\frac{3}{2})^x$ [correct answer] **B** $f(x) = 16(\frac{2}{3})^x$ **C** $f(x) = 36(\frac{3}{2})^x$ **D** $f(x) = 36(\frac{2}{3})^x$	A.9(C)	2021/ Question#38	5

	Question	TEKS	Exam/ Question#	Unit
5	A part of exponential function *f* is graphed on the grid.  Which inequality best represents the domain of the part shown? **A** $x > 1$ **B** $y > 1$ **C** $x \geq -2$ [correct answer] **D** $y \geq -2$	A.9(A)	2021/ Question#49	5
6	The values in the table represent a linear relationship between x and y. x: -8.5, -6.5, -2.5, -1 y: -92, -72, -32, -17 What is the rate of change of *y* with respect to *x*? **A** 10 [correct answer] **B** 17 **C** -10 **D** -17	A.3(B)	2021/ Question#3	4

	Question	TEKS	Exam/ Question#	Unit
7	Which graph represents a function with a domain of all real numbers less than or equal to 6? **A**  [correct answer] **B**  **C**  **D** 	A.2(A)	2021/ Question#33	4

	Question	TEKS	Exam/ Question#	Unit
8	Which situation best represents causation? **A** When the number of bus stops increases, the number of car sales decreases. **B** When it rains several inches, the water level of a lake increases. [correct answer] **C** When fewer firefighters report to a house fire, the damage caused by the fire decreases. **D** When ice cream sales increase, incidents of sunburn increase.	A.4(B)	2017/ Question#9	3
9	A grill at a barbecue restaurant will be used to cook sausage links that are 2 lb each and briskets that are 6 lb each. No more than 120 lb of sausage links and briskets will be cooked on the grill. Which inequality represents all possible combinations of x, the number of sausage links that will be cooked on the grill, and y, the number of briskets that will also be cooked? **A** $6x + 2y < 120$ **B** $2x + 6y \leq 120$[correct answer] **C** $6x + 2y > 120$ **D** $2x + 6y \geq 120$	A.2(H)	2019/ Question#15	2

	Question	TEKS	Exam/ Question#	Unit
10	The graph of a linear function is shown on the grid.  Which equation is best represented by this graph? **A** $y + 2 = \frac{7}{5}(x + 7)$ **B** $y + 2 = \frac{5}{7}(x + 7)$ **C** $y - 2 = \frac{7}{5}(x - 7)$ **D** $y - 2 = \frac{5}{7}(x - 7)$[correct answer]	A.2(C)	2019/ Question#23	1