

Practice Test – Algebra 1 Answer Key

Item Position	Item Type	TEKS Alignment	Maximum Number of Points	Correct Answer(s)
1	Multiple Choice	A1.1.11.B	1	B
2	Multiple Choice	A1.2.3.E	1	D
3	Hotspot	A1.4.7.A	2	(-1, 0) and (3, 0) Recognized that the x-intercepts are located where the graph crosses the x-axis, which are (-1, 0) and (3, 0). See Appendix 1.1
4	Multiple Choice	A1.3.2.I	1	A
5	Multiple Choice	A1.5.9.D	1	C
6	Multiple Choice	A1.4.6.C	1	B
7	Inline Choice	A1.5.9.B	2	\$320 decreases 10% See Appendix 1.2
8	Multiple Choice	A1.1.11.A	1	A
9	Multiple Choice	A1.2.3.B	1	A
10	Multiple Choice	A1.3.5.B	1	C
11	Multiple Select	A1.1.10.E	2	A: $x + 3$ D: $2x - 5$ See Appendix 1.3
12	Multiple Choice	A1.4.6.A	1	A
13	Multiple Choice	A1.3.2.C	1	D
14	Multiple Choice	A1.4.7.B	1	D
15	Hot Text	A1.2.3.C	2	Slope: 2 y-intercept: -4 See Appendix 1.4
16	Multiple Choice	A1.1.10.B	1	C
17	Multiple Choice	A1.4.7.A	1	D
18	Multiple Choice	A1.5.9.E	1	C
19	Equation	A1.3.5.A	1	15 $10 - 3(m - 5) = 2(5 - m)$ $10 - 3m + 15 = 10 - 2m$ $-m = -15$ $m = 15$ See Appendix 1.5
20	Multiple Choice	A1.2.3.B	1	D

Item Position	Item Type	TEKS Alignment	Maximum Number of Points	Correct Answers(s)
21	Multiple Choice	A1.3.5.C	1	D
22	Multiple Choice	A1.5.9.C	1	B
23	Hotspot	A1.2.3.D	2	(1, 2), (1, -4), (4, 0) See Appendix 1.6
24	Multiple Choice	A1.1.12.C	1	B
25	Multiple Choice	A1.3.2.A	1	C
26	Multiple Choice	A1.1.10.E	1	B
27	Inline Choice	A1.4.7.C	2	right, up See Appendix 1.7
28	Multiple Choice	A1.1.11.B	1	A
29	Multiple Choice	A1.3.2.I	1	B
30	Multiple Choice	A1.4.6.A	1	D
31	Table Match	A1.2.4.B	2	Both (row 1, column 3) Association Only (row 2, column 1) See Appendix 1.8
32	Multiple Choice	A1.3.5.C	1	A
33	Multiple Choice	A1.2.3.C	1	B
34	Multiple Choice	A1.1.10.F	1	D
35	Equation	A1.3.2.E	1	$y = -x + 2$ or $x + y = 2$ See Appendix 1.9
36	Multiple Choice	A1.2.3.B	1	C
37	Multiple Select	A1.3.2.A	2	B: The domain of the function is {0, 1, 2, 3, 4, 5}. F: The range of the function is { 0, 96, 192, 288, 384, 480}. See Appendix 1.10
38	Multiple Choice	A1.4.8.A	1	B
39	Equation	A1.5.9.C	1	$y = 963(0.73)^x$ See Appendix 1.11
40	Multiple Choice	A1.2.3.D	1	C
41	Multiple Choice	A1.2.3.A	1	B
42	Multiple Choice	A1.4.8.A	1	C
43	Equation	A1.1.11.B	1	18x6 See Appendix 1.12
44	Multiple Choice	A1.3.2.C	1	A
45	Multiple Choice	A1.4.6.B	1	B

Item Position	Item Type	TEKS Alignment	Maximum Number of Points	Correct Answer(s)
46	Multiple Choice	A1.3.2.G	1	D
47	Multiple Choice	A1.2.3.H	1	A
48	Hot Text	A1.3.2.B	2	-0.5, -1.5 See Appendix 1.13
49	Multiple Choice	A1.5.9.D	1	A
50	Multiple Choice	A1.1.10.E	1	C

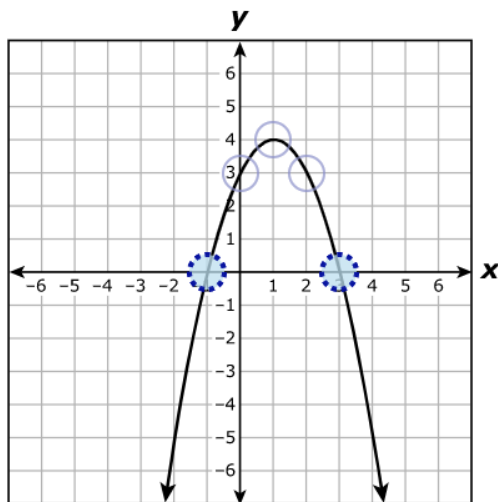
Practice Test – Algebra 1

Appendix

1.1

A graph of a quadratic function is shown. What are the x -intercepts of the function?

Select **TWO** correct answers.



1.2

A store manager adjusts the price of an item each week that the item goes unsold. The price of the unsold item, in dollars, after x weeks can be modeled by the exponential function $f(x) = 320(0.90)^x$.

Choose the correct answer from each drop-down menu to complete the sentences.

The initial price of the item before the store manager made any adjustments was .

The price of the item at a rate of each week.

1.3

What are the factors of $2x^2 + x - 15$?

Select **TWO** correct answers.

$x + 3$

$2x - 3$

$x + 5$

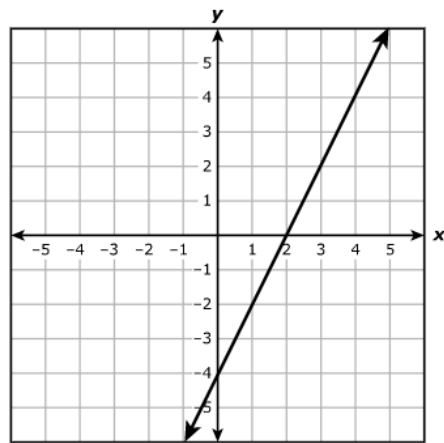
$2x - 5$

$x - 3$

$2x + 5$

1.4

The graph of a linear function is shown.



What are the slope and the y -intercept that best represent this linear function?

Move the correct answer to each box. Each answer may be used more than once. Not all answers will be used.

Slope:

y -intercept:

1.5

What is the solution to $10 - 3(m - 5) = 2(5 - m)$?

Enter your answer in the box.

← → ↶ ↷ ✖

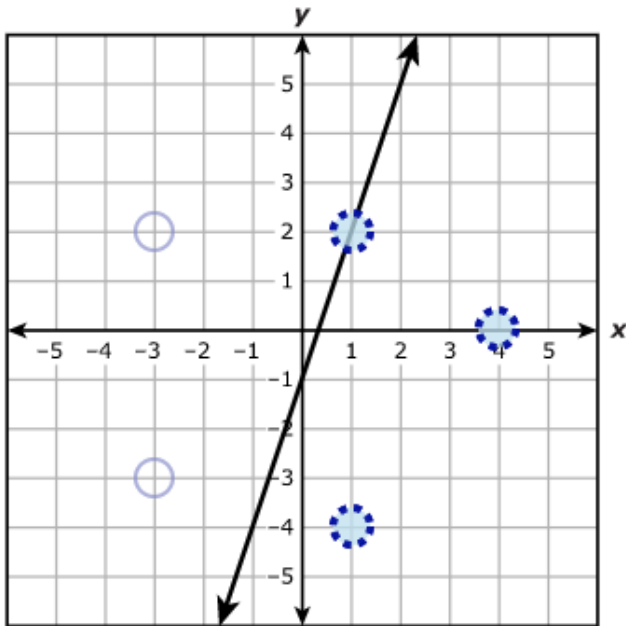
1	2	3
4	5	6
7	8	9
	0	
.	-	$\frac{\square}{\square}$

1.6

The graph of $3x - y = 1$ is shown on the grid.

Which points are in the solution set of $3x - y \geq 1$?

Select **THREE** correct answers.



1.7

The function $f(x) = x^2$ was transformed to create the function $g(x) = f(x - 2) + 5$. Complete the sentence about this transformation.

Choose the correct answer from each drop-down box to complete the sentence.

The graph of f is translated 2 units and 5 units to create the graph of function g .

1.8

Indicate whether each statement is an example of association, causation, both association and causation, or neither association nor causation.

Select the correct answer in each row.

Statement	Association Only	Causation Only	Both Association and Causation	Neither Association nor Causation
As the outside temperature in degrees Celsius increases, the number of minutes it takes for a bowl of ice cream to melt decreases.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
As the sales of winter coats increase, the outside temperature decreases.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1.9

The equation of line k is $y = -x + 17$. Line n is parallel to line k and passes through the point $(-5, 7)$.

Determine an equation that represents the relationship between x and y for line n .
Enter your answer in the space provided.

$y = -x + 2$

← → ↶ ↷ ✕							
1	2	3	x	y			
4	5	6	+	-	•	÷	
7	8	9	<	≤	=	≥	>
	0		\square^\square	\square_\square	()	$\sqrt{\square}$	π
.	-	$\frac{\square}{\square}$					

1.10

A student borrowed \$480 from a friend. He agreed to make monthly payments of \$96 with no interest until the loan balance was paid off. The function shown models this situation, where $f(x)$ represents the remaining loan balance in dollars after the student has made x monthly payments.

$$f(x) = 480 - 96x$$

Which statements are true about the domain and range of the function for this situation?

Select **TWO** correct answers.

The domain of the function is the set of all real numbers.

The domain of the function is $\{0, 1, 2, 3, 4, 5\}$.

The domain of the function is $\{0, 96, 192, 288, 384, 480\}$.

The range of the function is the set of all real numbers.

The range of the function is $\{0, 1, 2, 3, 4, 5\}$.

The range of the function is $\{0, 96, 192, 288, 384, 480\}$.

1.11

A sample of a substance with an initial mass of 963 grams is decaying at a rate of 27% per hour.

Create a function that can be used to find y , the mass of the substance in grams remaining after x hours.

Enter your answer in the space provided.

$y=963(0.73)^x$									
←	→	↶	↷	✖					
1	2	3	x	y					
4	5	6	+	-	•	÷			
7	8	9	<	≤	=	≥	>		
	0		\square^\square	\square_\square	()	$\sqrt{\square}$	π		
.	-	$\frac{\square}{\square}$							

1.12

In the expression shown, x is a value where the expression is defined.

$$(2x^8)(3x^{-1})^2$$

What is the simplest form of the expression? Write your answer in the form ax^b .

Enter your answer in the box provided.

$18x^6$									
←	→	↶	↷	✖					
1	2	3	x	y					
4	5	6	+	-	•	÷			
7	8	9	<	≤	=	≥	>		
	0		\square^\square	\square_\square	()	$\sqrt{\square}$	π		
.	-	$\frac{\square}{\square}$							

1.13

For linear function f , $f(-3) = 0$ and $f(5) = -4$.

Complete function f in slope-intercept form.

Move the correct answer to each box. Not all answers will be used.

-3 -2 -1.5 -0.5 0.5 1.5 2 3

$$f(x) = \boxed{-0.5}x + \boxed{-1.5}$$