A **28.** The graph below represents the amount of profit (in dollars) a company expects to make from selling bracelets. According to this model, how much money would the company make if they sell 400 bracelets? Round your answer to the nearest dollar if necessary.

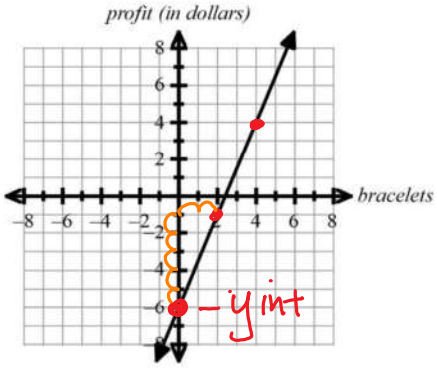
**A.** $994
**B.** $400
**C.** $162
**D.** $154

$y = \frac{5}{2}x + -6$ (400)

$y = \frac{5}{2}(400) - 6$ (200)

$y = 1000 - 6$

$= 994$




D **29.** An apple orchard allows people to come and pick their own apples. Customers pay $5 for a basket and $0.10 for each apple. The function $f(x) = 0.10x + 5$ gives the cost for $x$ apples picked. What is the range of the function?

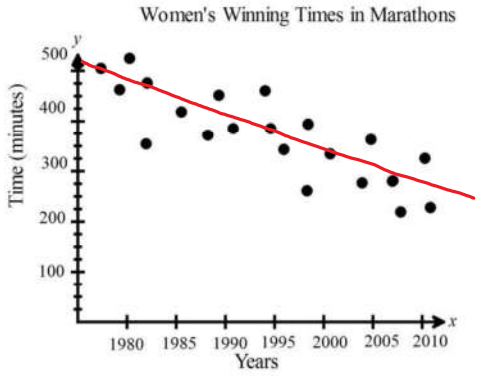
y values

**A.** $\{all\ real\ numbers\}$
**B.** $\{0, 1, 2, 3, 4, 5 \ldots\}$
**C.** $\{0, 0.10, 0.20, 0.30, 0.40, 0.50 \ldots\}$
**D.** $\{5, 5.10, 5.20, 5.30, 5.40, 5.50 \ldots\}$

| # apples | Cost |
|---|---|
| 0 | $5 |
| 1 | $5.10 |
| ⋮ | |

Released 7/30/21

D **30.** Describe the relationship between the two variables based on the scatterplot below.




x↑ y↓

**A.** As the winning times increase, the years decrease.

**B.** As the years increase, the winning times increase.

**C.** As the years decrease, the winning times decrease.

**D.** As the years increase, the winning times decrease.

C **31.** Which of the following is a reasonable trend line (line of best fit) for the scatterplot below?

**A.** $y = \frac{1}{3}x + 8$

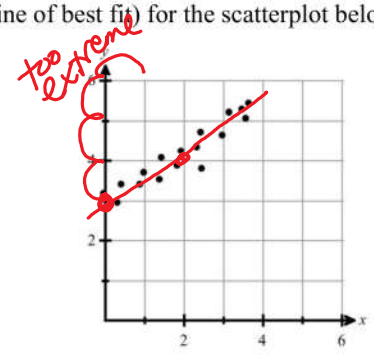
**B.** $y = \frac{1}{2}x - 3$

**C.** $y = \frac{2}{3}x + 3$

**D.** $y = 3x + 3$

mx+b
y int

too extreme




Released 7/30/21

A **32.** The first five terms of a sequence are given below:

| 29 | 25 | 21 | 17 | 13 |
|---|---|---|---|---|

Which equation describes the $n^{th}$ term of the sequence?

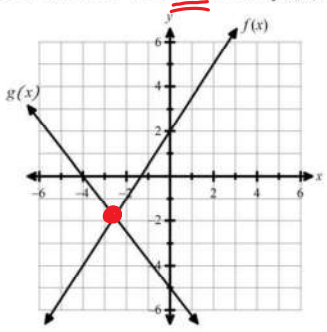
**A.** $f(n) = -4n + 33$
**B.** $f(n) = 4n + 28$
**C.** $f(n) = 4n + 17$
**D.** $f(n) = -4n - 23$

H, J, K, L **33.** An exercise program begins the first week with 30 minutes of daily exercise. Each week, the daily exercise is increased by 5 minutes. Which function, explicit formula or recursive formula represents the number of minutes of daily exercise in the $n^{th}$ week? Select all that apply.

**F.** $f(1) = 30, f(n) = 5f(n-1), for\ n \geq 2$
**G.** $f(n) = 5n + 30$
**H.** $a_n = a_{n-1} + 5\ a_1 = 30$
**I.** $a_n = 5 + 30n$
**J.** $a_n = 25 + 5n$
**K.** $f(n) = 5n + 25$
**L.** $f(1) = 30, f(n) = f(n-1) + 5, for\ n \geq 2$

B **34.** The functions $f(x)$ and $g(x)$ are graphed below. Approximate the value $x$ when $f(x) = g(x)$.

**A.** $x = -4$
**B.** $x = -2.5$
**C.** $x = -1.8$
**D.** $x = 2$



## Algebra 1 Semester 1
## Instructional Materials 2021-22 Answers

| Topic 1 Solving Equations & Inequalities | | | Topic 2 Linear Equations | | | Topic 3 Linear Functions | | |
|---|---|---|---|---|---|---|---|---|
| # | Ans | Standard | # | Ans | Standard | # | Ans | Standard |
| 1. | F, H, I | HSA.REI.A.1 | 10. | A | HSF.IF.C.7a | 23. | F, H, J, K | HSF.IF.A.1 |
| 2. | A | HSA.CED.A.1 | 11. | C | HSF.IF.C.7a | 24. | B | HSF.IF.B.5 |
| 3. | D | HSA.REI.A.1 | 12. | B | HSA.CED.A.2<br>HSF.IF.C.7a | 25. | A | HSF.IF.A.2 |
| 4. | -2.0 | HSA.REI.B.3 | 13. | C | HSF.IF.C.7a | 26. | -45 | HSF.IF.A.2<br>HAS.IF.A.1 |
| 5. | D | HSA.REI.B.3 | 14. | F, H | HSS.ID.C.7 | 27. | D | HSF.LE.A.2 |
| 6. | A | HSA.CED.A.4 | 15. | D | HSA.CED.A.2<br>HSF.LE.A.2 | 28. | A | HSA.CED.A.2<br>HSF.LE.A.2<br>HSS.ID.C.7 |
| 7. | C | HSA.REI.B.3 | 16. | G, I, J | HSA.CED.A.2 | 29. | D | HSF.IF.A.2<br>HSF.IF.B.5 |
| 8. | D | HSA.CED.A.1<br>HSA.CED.A.3 | 17. | D | HSS.ID.C.7 | 30. | D | HSS.ID.C.7<br>HSS.ID.B.6 |
| 9. | C | HSA. REI.B.3 | 18. | C | HSA.CED. A.1 | 31. | C | HSS.ID.B.6.A<br>HSS.ID.B.6.C |
| | | | 19. | A | HSS.ID.C.7 | 32. | A | HSF.IF.A.1<br>HSF.LE.A.2 |
| | | | 20. | C | HSS.ID.C.7 | 33. | H, J, K, L | HSF.BF.A.1<br>HSF.BF.A.2 |
| | | | 21. | $\frac{8}{5}$ | HSA.CED.A.2<br>HSG.GPE.B.5 | | | |
| | | | 22. | A | HSA.CED.A.2<br>HSG.GPE.B.5 | | | |
| | | | | | | | | |

Released 7/30/21

## Algebra 1 Semester 1 Instructional Materials 2021-22 Answers

| Topic 4 Systems of Equations & Inequalities | | | Topic 5 Absolute Value Functions | | |
|---|---|---|---|---|---|
| # | Ans | Standard | # | Ans | Standard |
| 34. | B | HSA.REI.C.6 | 48. | A | HSA.CED.A.1 |
| 35. | G, I | HSA.REI.C.6 | 49. | B | HSA.CED.A.1 |
| 36. | A | HSA.REI.C.6<br>HSA.CED.A.2 | 50. | G, J | HSF.IF.B.4 |
| 37. | A | HSA.REI.C.6 | 51. | A | HSF.IF.C.7.b |
| 38. | D | HSA.REI.C.6<br>HSA.CED.A.2 | 52. | A | HSF.IF.C.7b |
| 39. | B | HSA.REI.C.5<br>HSA.REI.C.6 | 53. | B | HSF.IF.C.7b |
| 40. | C | HSA.REI.C.5<br>HSA.REI.C.6 | 54. | D | HSF.IF.B.4<br>HSF.IF.B.6 |
| 41. | D | HSA.CED.A.2 | 55. | C | HSF.IF.B.4 |
| 42. | 2.50 | HSA.REI.C.5<br>HSA.REI.C.6<br>HSA.CED.A.2<br>HSA.CED.A.3 | 56. | D | HSF.IF.C.7.b |
| 43. | B | HSA.REI.D.12<br>HSA.CED.A.3 | 57. | C | HSF.BF.B.3 |
| 44. | C | HSA.REI.D.12<br>HSA.CED.A.3 | 58. | G, I | HSF.IF.C.7.b |
| 45. | C | HSA.REI.D.12<br>HSA.CED.A.3 | 59. | B | HSF.BF.B.3 |
| 46. | D | HSA.REI.D.12<br>HSA.CED.A.3 | 60. | B | HSF.IF.B.4 |
| 47. | A | HSA.REI.D.12<br>HSA.CED.A.3 | 61. | D | HSF.BF.B.3 |
| | | | | | |

Released 7/30/21