

Practice Test

Practice Test Page 246 Question 1



Figure 1

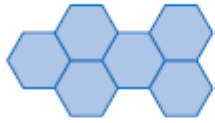


Figure 2

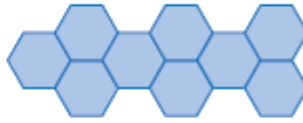


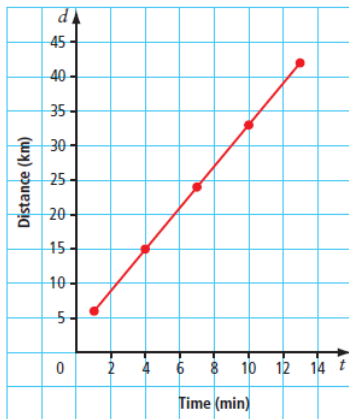
Figure 3

Figure 1 has 12 sides, Figure 2 has 20 sides, and Figure 3 has 28 sides. The correct choice is C.

Practice Test Page 246 Question 2

The number of sides, s , increases by 8 each time. Multiplying the figure number, f , by 8 results in an answer that is 4 less than the number of sides, s . The equation is $s = 8f + 4$. The correct choice is B.

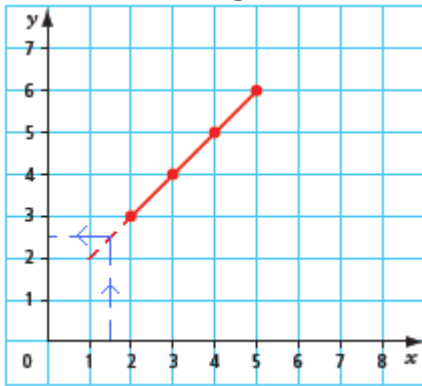
Practice Test Page 246 Question 3



| t | d | Pattern | |
|-----|-----|-------------------|-----------------|
| | | Multiply t by 3 | Add 3 to Result |
| 1 | 6 | 3 | 6 |
| 4 | 15 | 12 | 15 |
| 7 | 24 | 21 | 24 |
| 10 | 33 | 30 | 33 |
| 13 | 42 | 39 | 42 |

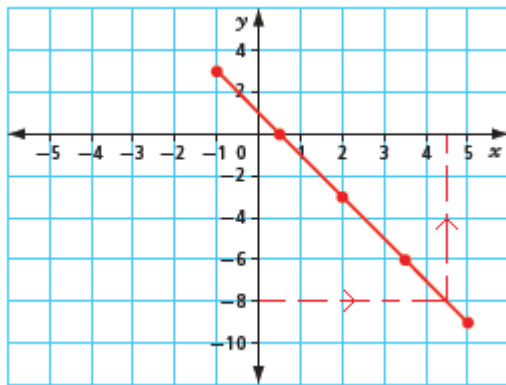
The graph is represented by the equation $d = 3t + 3$. The correct choice is C.

Practice Test Page 246 Question 4



From the graph, when $x = 1.5$, the approximate y -coordinate is 2.5.

Practice Test Page 246 Question 5



From the graph, when $y = -8$, the approximate x -coordinate is 4.5.

Practice Test Page 246 Question 6

a)

| Term, n | Value, v |
|-----------|------------|
| 1 | -2 |
| 2 | -6 |
| 3 | -10 |
| 4 | -14 |
| 5 | -18 |

b) Let v represent the value of a term and n represent the term number.

| Term, n | Value, v | Pattern | |
|-----------|------------|----------------------|-----------------|
| | | Multiply n by -4 | Add 2 to Result |
| 1 | -2 | -4 | -2 |
| 2 | -6 | -8 | -6 |
| 3 | -10 | -12 | -10 |
| 4 | -14 | -16 | -14 |
| 5 | -18 | -20 | -18 |

The equation $v = -4n + 2$ can be used to determine the numbers in the pattern.

Use term 5 to check:

Check:

$$\begin{aligned} \text{Left Side} &= -18 & \text{Right Side} &= -4(5) + 2 \\ & & &= -20 + 2 \\ & & &= -18 \end{aligned}$$

Left Side = Right Side

The equation is correct.

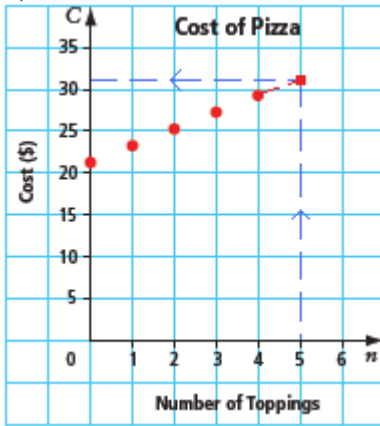
c) Substitute $n = 11$ into the equation and solve for v .

$$\begin{aligned} v &= -4(11) + 2 \\ &= -44 + 2 \\ &= -42 \end{aligned}$$

The 11th term has a value of -42 .

Practice Test Page 247 Question 7

a)



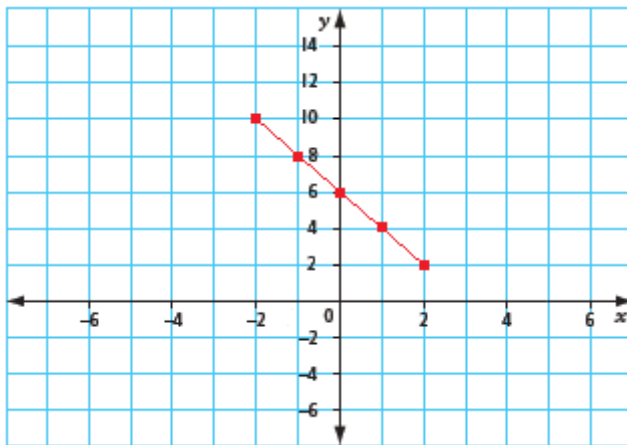
From the graph, a party pizza with five toppings costs approximately \$31.

b) It is not reasonable to interpolate values on this graph because you cannot add a fraction of a topping for a fraction of the price.

Practice Test Page 247 Question 8

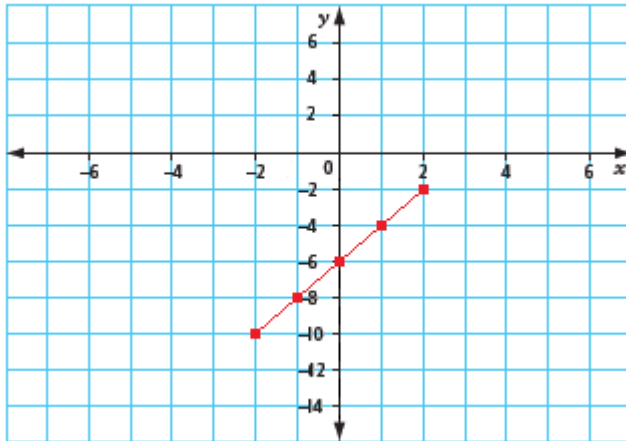
a)

| x | y |
|-----|-----|
| -2 | 10 |
| -1 | 8 |
| 0 | 6 |
| 1 | 4 |
| 2 | 2 |



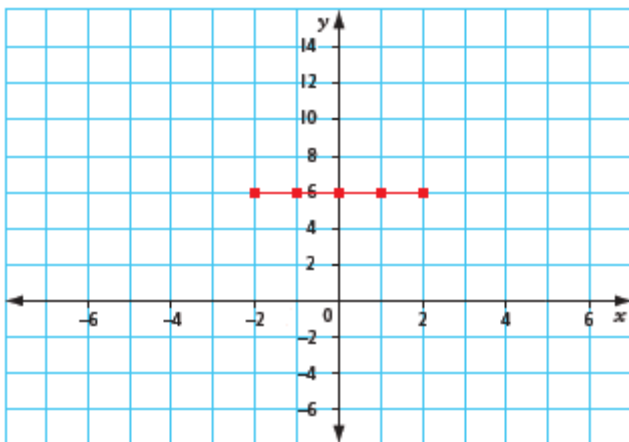
b)

| x | y |
|-----|-----|
| -2 | -10 |
| -1 | -8 |
| 0 | -6 |
| 1 | -4 |
| 2 | -2 |



c)

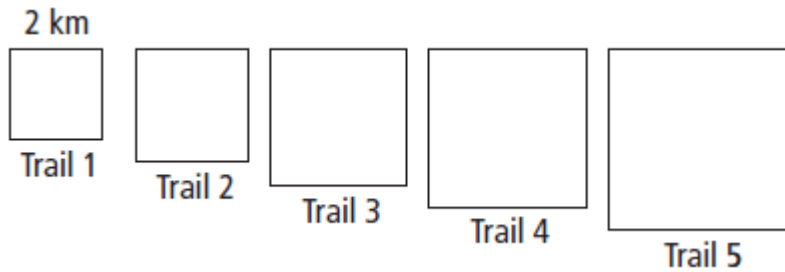
| x | y |
|-----|-----|
| -2 | 6 |
| -1 | 6 |
| 0 | 6 |
| 1 | 6 |
| 2 | 6 |



Practice Test Page 247 Question 9

Example: The graphs in parts a) and b) are symmetrical about the y-axis. The graphs in parts a) and c) have the same y-intercept.

Practice Test Page 247 Question 10



a)

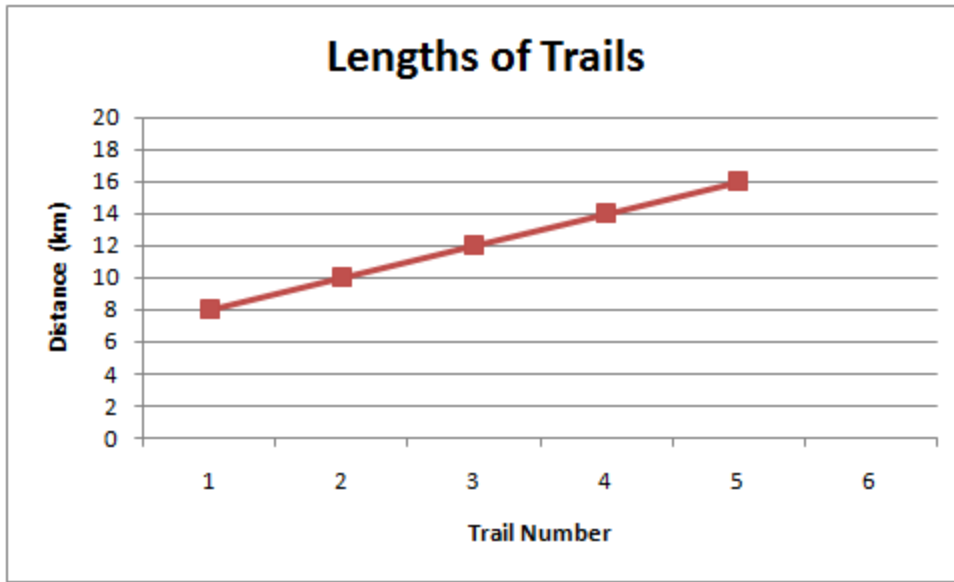
| Trail Number, n | Distance, d (km) |
|-------------------|--------------------|
| 1 | 8 |
| 2 | 10 |
| 3 | 12 |
| 4 | 14 |
| 5 | 16 |

b)

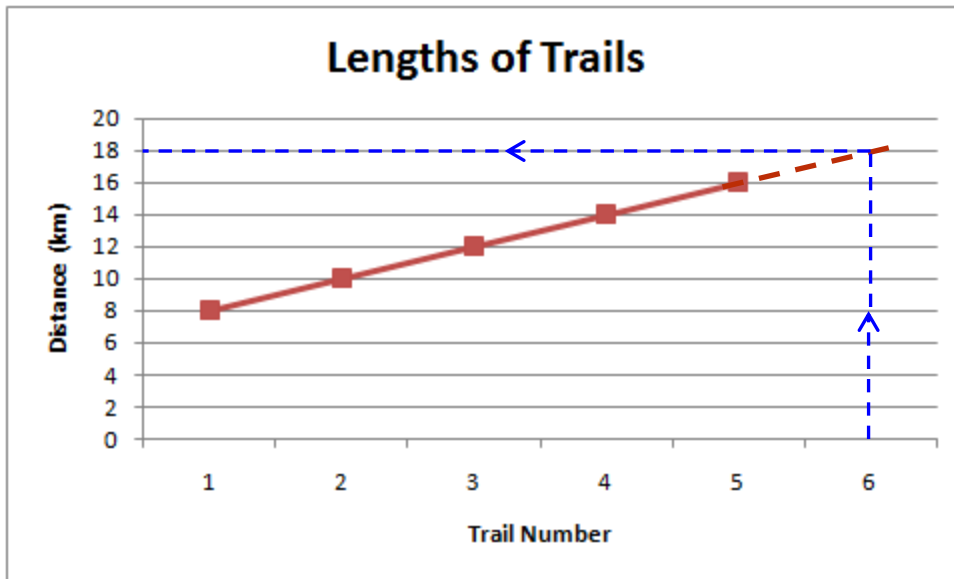
| Trail Number, n | Distance, d (km) | Pattern | |
|-------------------|--------------------|-------------------|-----------------|
| | | Multiply n by 2 | Add 6 to Result |
| 1 | 8 | 2 | 8 |
| 2 | 10 | 4 | 10 |
| 3 | 12 | 6 | 12 |
| 4 | 14 | 8 | 14 |
| 5 | 16 | 10 | 16 |

The equation that represents the relationship between the trial number, n , and the distance, d , is $d = 2n + 6$.

c)



d)



From the graph, the total distance of a sixth trail would be approximately 18 km.