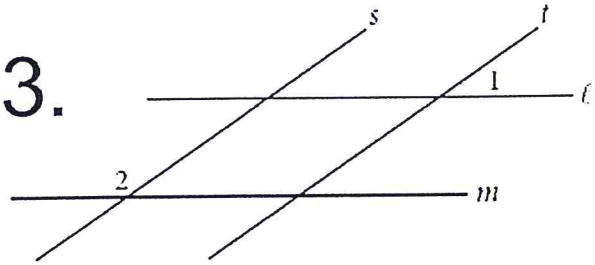
3.



In the figure above, lines ℓ and m are parallel and lines s and t are parallel. If the measure of $\angle 1$ is 35°, what is the measure of $\angle 2$?

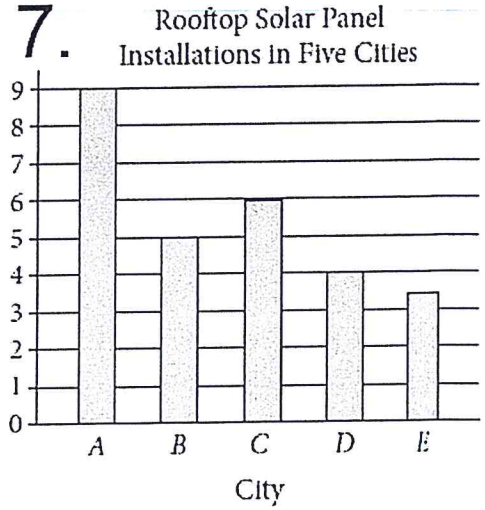
A) 35°

B) 55°

C) 70°

D) 145°

7.



The number of rooftops with solar panel installations in 5 cities is shown in the graph above. If the total number of installations is 27,500, what is an appropriate label for the vertical axis of the graph?

A) Number of installations (in tens)

B) Number of installations (in hundreds)

C) Number of installations (in thousands)

D) Number of installations (in tens of thousands)

8.

For what value of n is $|n-1|+1$ equal to 0 ?

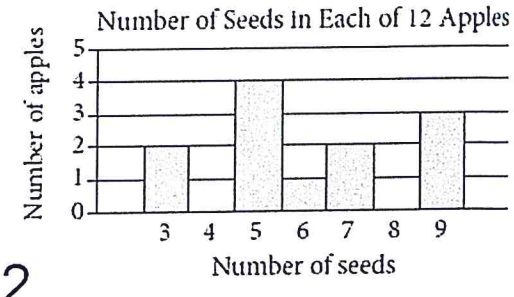
A) 0

B) 1

C) 2

D) There is no such value of n.

12.



Based on the histogram above, of the following, which is closest to the average (arithmetic mean) number of seeds per apple?

A) 4

B) 5

C) 6

D) 7

2 more problems on the back

Questions 9 and 10 refer to the following information.

$$a = 1{,}052 + 1.08t$$

The speed of a sound wave in air depends on the air temperature. The formula above shows the relationship between a, the speed of a sound wave, in feet per second, and t, the air temperature, in degrees Fahrenheit (°F).

9. Which of the following expresses the air temperature in terms of the speed of a sound wave?

A) $t = \dfrac{a - 1{,}052}{1.08}$

B) $t = \dfrac{a + 1{,}052}{1.08}$

C) $t = \dfrac{1{,}052 - a}{1.08}$

D) $t = \dfrac{1.08}{a + 1{,}052}$

10. At which of the following air temperatures will the speed of a sound wave be closest to 1,000 feet per second?

A) −46°F

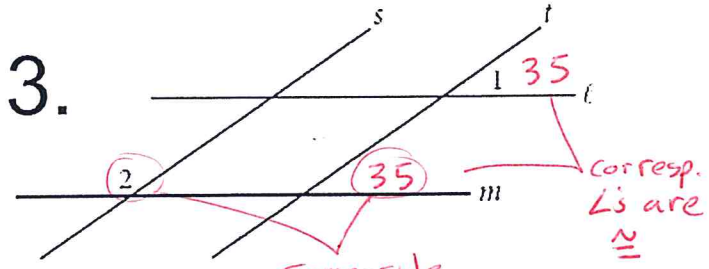
B) −48°F

C) −49°F

D) −50°F

(Answers)

3.



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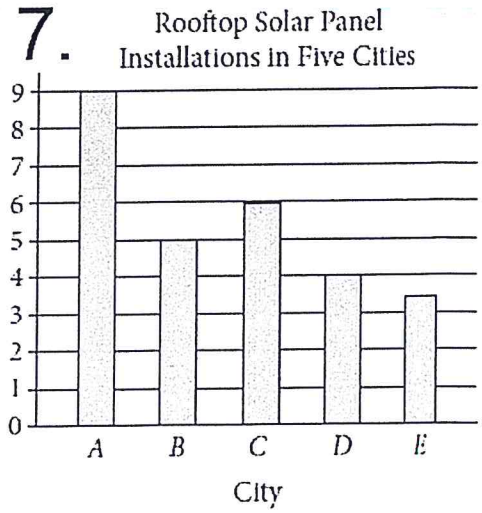
B) 55°
C) 70°
D) 145°

$180 = \angle 2 + 35°$

7.



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For what value of n is $|n - 1| + 1$ equal to 0 ?

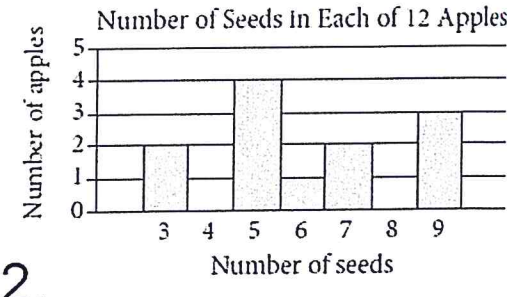
A) 0
B) 1
C) 2
D) There is no such value of n.

$|n-1| + 1 = 0$
$\quad -1 \quad -1$

$|n-1| = -1$

this will never be true

12.



Based on the histogram above, of the following, which is closest to the average (arithmetic mean) number of seeds per apple?

A) 4
B) 5
C) 6
D) 7

2 apples w/ 3 seeds = 6
4 apples w/ 5 seeds = 20
1 apple w/ 6 seeds = 6
2 apples w/ 7 seeds = 14
3 apples w/ 9 seeds = 27
73

$\frac{73 \text{ seeds}}{12 \text{ apples}} = 6.08$

Questions 9 and 10 refer to the following information.

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C) $t = \dfrac{1{,}052 - a}{1.08}$

D) $t = \dfrac{1.08}{a + 1{,}052}$

$a = 1{,}052 + 1.08t$

$-1{,}052 \quad -1{,}052$

$\dfrac{a - 1{,}052}{1.08} = \dfrac{1.08t}{1.08}$

10. At which of the following air temperatures will the speed of a sound wave be closest to 1,000 feet per second?

A) −46°F

B) −48°F

C) −49°F

D) −50°F

$1000 = 1{,}052 + 1.08t$

$-1{,}052 \quad -1{,}052$

$\dfrac{-52}{1.08} = \dfrac{1.08t}{1.08}$

$t = -48.15°$