
Question 1:

Find the area of a right angle triangle whose base is 12 inches.

- 1. The hypotenuse is 13 inches.**
- 2. The perpendicular height of the triangle is one less than half its base.**

- (A) Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient to answer the question asked.*
- (B) Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient to answer the question asked.*
- (C) BOTH statements (1) and (2) TOGETHER are sufficient to answer the question asked, but NEITHER statement ALONE is sufficient to answer the question ask*
- (D) EACH statement ALONE is sufficient to answer the question asked.*
- (E) Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data specific to the problem are needed.*

Correct Answer:

(D) EACH statement ALONE is sufficient to answer the question asked.

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Question 2:

Is the number a prime number?

- 1. The number is divisible by a prime factor.**
- 2. The number is positive.**

- (A) Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient to answer the question asked.*
- (B) Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient to answer the question asked.*
- (C) BOTH statements (1) and (2) TOGETHER are sufficient to answer the question asked, but NEITHER statement ALONE is sufficient to answer the question ask*
- (D) EACH statement ALONE is sufficient to answer the question asked.*
- (E) Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data specific to the problem are needed.*

Correct Answer:

(E) Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data specific to the problem are needed.

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Question 3:

Find the direction in which the parabola $y = ax^2 + bx - 2$ is facing.

1. $a = b$

2. $a < 0$

- (A) Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient to answer the question asked.
- (B) Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient to answer the question asked.
- (C) BOTH statements (1) and (2) TOGETHER are sufficient to answer the question asked, but NEITHER statement ALONE is sufficient to answer the question ask
- (D) EACH statement ALONE is sufficient to answer the question asked.
- (E) Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data specific to the problem are needed.

Correct Answer:

(B) Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient to answer the question asked.

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Question 4:

Find the equation of a line.

1. Its x and y intercept is 2 and -2 respectively.

2. The slope of the line is 1.

- (A) Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient to answer the question asked.

- (B) Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient to answer the question asked.
- (C) BOTH statements (1) and (2) TOGETHER are sufficient to answer the question asked, but NEITHER statement ALONE is sufficient to answer the question ask
- (D) EACH statement ALONE is sufficient to answer the question asked.
- (E) Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data specific to the problem are needed.

Correct Answer:

(A) Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient to answer the question asked.

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Question 5:

Determine the size of an interior angle of the polygon.

1. The ratio of its interior angle to the exterior angle is 2:1.
2. The polygon is a regular hexagon.

- (A) Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient to answer the question asked.
- (B) Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient to answer the question asked.
- (C) BOTH statements (1) and (2) TOGETHER are sufficient to answer the question asked, but NEITHER statement ALONE is sufficient to answer the question ask
- (D) EACH statement ALONE is sufficient to answer the question asked.
- (E) Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data specific to the problem are needed.

Correct Answer:

(D) EACH statement ALONE is sufficient to answer the question asked.

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Question 6:

Find out if $t < 0$.

1. $|t| > t$

2. $t^2 > 0$

(A) Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient to answer the question asked.

(B) Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient to answer the question asked.

(C) BOTH statements (1) and (2) TOGETHER are sufficient to answer the question asked, but NEITHER statement ALONE is sufficient to answer the question ask

(D) EACH statement ALONE is sufficient to answer the question asked.

(E) Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data specific to the problem are needed.

Correct Answer:

(A) Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient to answer the question asked.

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Question 7:

Determine the value of t.

1. $2t + 6s = 8$

2. $t/2 - 2 = -3s/4$

(A) Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient to answer the question asked.

(B) Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient to answer the question asked.

(C) BOTH statements (1) and (2) TOGETHER are sufficient to answer the question asked, but NEITHER statement ALONE is sufficient to answer the question ask

(D) EACH statement ALONE is sufficient to answer the question asked.

(E) Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data specific to the problem are needed.

Correct Answer:

(C) BOTH statements (1) and (2) TOGETHER are sufficient to answer the question asked, but NEITHER statement ALONE is sufficient to answer the question ask

Question 8:

Find the percentage change in the volume of a cylinder.

1. The diameter is increased by 20%.

2. The height is increased by 21%.

(A) Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient to answer the question asked.

(B) Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient to answer the question asked.

(C) BOTH statements (1) and (2) TOGETHER are sufficient to answer the question asked, but NEITHER statement ALONE is sufficient to answer the question ask

(D) EACH statement ALONE is sufficient to answer the question asked.

(E) Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data specific to the problem are needed.

Correct Answer:

(C) BOTH statements (1) and (2) TOGETHER are sufficient to answer the question asked, but NEITHER statement ALONE is sufficient to answer the question ask

Question 9:

$a < b$. Is a positive?

1. $b = 0$.

2. $\sqrt{a} < a$

(A) Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient to answer the question asked.

(B) Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient to answer the question asked.

(C) BOTH statements (1) and (2) TOGETHER are sufficient to answer the question asked, but NEITHER statement ALONE is sufficient to answer the question ask

(D) EACH statement ALONE is sufficient to answer the question asked.

(E) Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data specific to the problem are needed.

Correct Answer:

(D) EACH statement ALONE is sufficient to answer the question asked.

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Question 10:

Determine the equation of the circle passing through (-4,-2).

1. (1,-1) lies in the circle.

2. The center of the circle is the origin.

(A) Statement (1) ALONE is sufficient, but statement (2) alone is not sufficient to answer the question asked.

(B) Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient to answer the question asked.

(C) BOTH statements (1) and (2) TOGETHER are sufficient to answer the question asked, but NEITHER statement ALONE is sufficient to answer the question ask

(D) EACH statement ALONE is sufficient to answer the question asked.

(E) Statements (1) and (2) TOGETHER are NOT sufficient to answer the question asked, and additional data specific to the problem are needed.

Correct Answer:

(B) Statement (2) ALONE is sufficient, but statement (1) alone is not sufficient to answer the question asked.

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Question 11:

A racecar driver has completed $12\frac{1}{2}$ laps of a 50 lap race. What fractional part of the race remains?

(A) $\frac{1}{4}$

(B) $\frac{1}{5}$

(C) $\frac{3}{4}$

(D) $4/5$

(E) $75/2$

Correct Answer:

(C) $3/4$

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Question 12:

If M is the set of positive multiples of 2 less than 150 and N is the set of positive multiples of 9 less than 150, how many members are there in $M \cap N$?

(A) 0

(B) 8

(C) 9

(D) 18

(E) 74

Correct Answer:

(B) 8

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Question 13:

At Bruno's Video World, the regular price for a DVD is d dollars. How many DVDs can be purchased for x dollars when the DVDs are on sale at 20% off the regular price?

(A) $4/5x$

(B) $5/4x$

(C) $4/5d$

(D) $4x/5d$

(E) $5x/4d$

Correct Answer:

(E) $5x/4d$

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Question 14:

If $x \neq 2y$, then $\frac{x-2y}{2y-x} + \frac{2y-x}{x-2y} =$

(A) $2(x-2y)$

(B) $2y-x$

(C) 1

(D) 0

(E) -2

Correct Answer:

(E) -2

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Question 15:

If Dave drove one-third of the distance of his trip on the first day, and 60 miles on the second day, he figured out that he still had $\frac{1}{2}$ of the trip to drive. What was the total length, in miles, of his trip?

(A) 360

(B) 180

(C) 120

(D) 60

(E) 90

Correct Answer:

(A) 360

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Question 16:

If $x^2 - y^2 = 48$, then $\frac{2}{3}(x + y)(x - y) =$

(A) 16

(B) 72

(C) 96

(D) 32

(E) 64

Correct Answer:

(D) 32

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Question 17:

Eddie is 7 years older than Brian. If Brian is x years old, then how old was Eddie 11 years ago?

(A) $x - 18$

(B) $x - 4$

(C) $x - 7$

(D) $7x - 11$

(E) $x + 18$

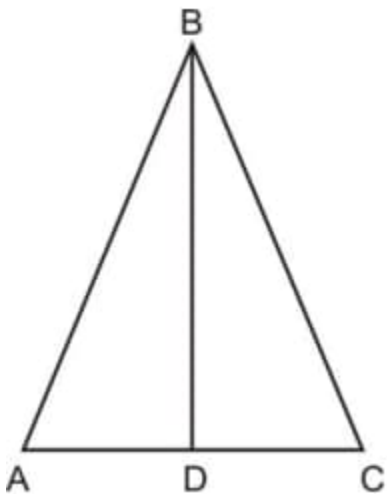
Correct Answer:

(B) $x - 4$

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Question 18:

Find the perimeter of Isosceles triangle ABC (below) if $m\angle A = 3$ and $m\angle BAC = 55$ degrees. Round to the nearest hundredth.



- (A) 5.21
- (B) 10.42
- (C) 13.48
- (D) 16.46
- (E) 13.39

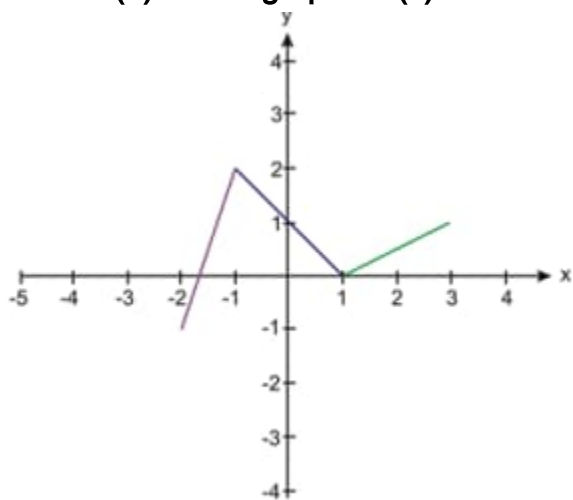
Correct Answer:

(D) 16.46

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Question 19:

What is $f(2)$ for the graph of $f(x)$ below?



- (A) 1
- (B) $\frac{1}{2}$
- (C) 0
- (D) 2
- (E) -1

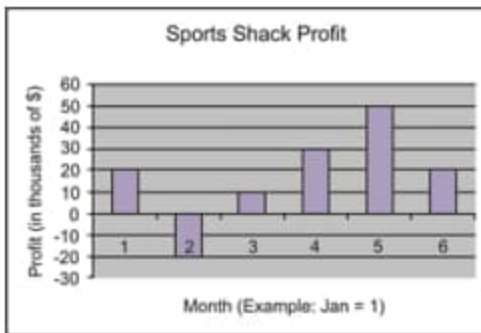
Correct Answer:

- (D) 2

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Question 20:

According to the graph below, the greatest change in the profit of the Sports Shack occurred between which two consecutive months?



- (A) *January and February*
- (B) *February and March*
- (C) *March and April*
- (D) *April and May*
- (E) *May and June*

Correct Answer:

- (C) March and April

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