ASVAB-SECTION-6Q&As

ASVAB Section Six : Mathematics Knowledge

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QUESTION 1

Solve the following equation for 7:

ay - bx = 2

A. bx + 2/a

B. 2 + bx - a

C. 2/a - bx

D. 2/a - bx

Correct Answer: A

Explanation: The given equation ay - bx=2 is to be solved for y. Isolate the y-termon one side of the equation by adding bx to both sides. ay - bx + bx = 2 + bx ay = 2 + bx y is multiplied by a. To obtain y alone, undo the multiplication by dividing both sides of the equation by a ay/a = 2 + bx/a y = 2 + bx/a

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QUESTION 2

What is the value of y when x = 1 and y = 3 + 2x?

A. 2

B. 3

C. 5

D. 17

Correct Answer: C

Explanation:

First multiply 2 x 1 and then add 3.

QUESTION 3

If a circle has a radius of 15 feet, what is its circumference most nearly?

A. 24 feet

B. 72 feet

C. 94 feet

D. 36 feet

Correct Answer: C

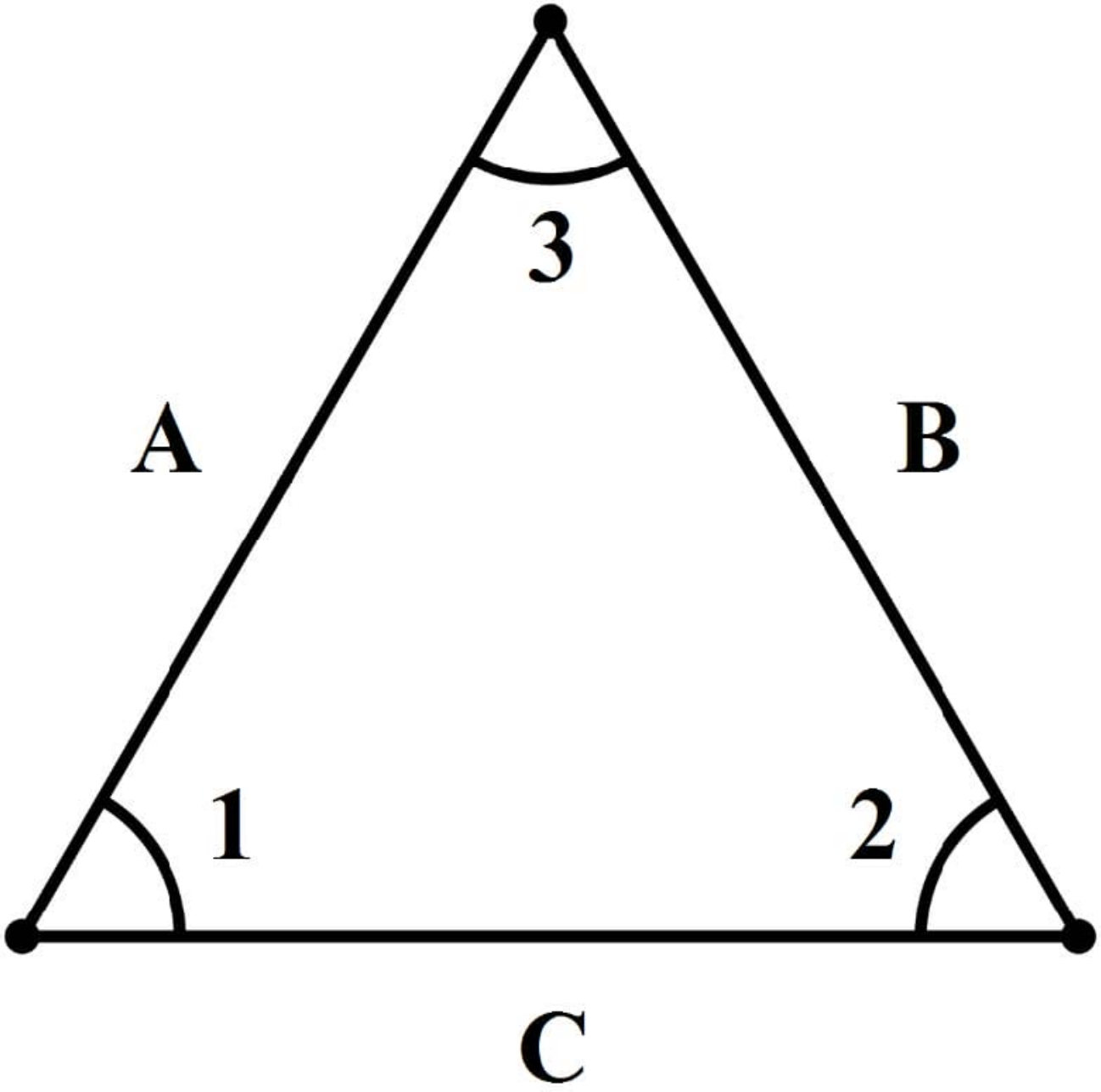
Explanation:

Circumference equals ? times diameter, and diameter is equal to two times the radius.

Or C= ?d, and d = 2r. C = ?30.

If you round ? to 3.14, the answer is about 94.2 or about 94 feet.

QUESTION 4



Triangle ABC (shown above) is a(n) _____.

A. right triangle

B. obtuse triangle

C. equilateral triangle

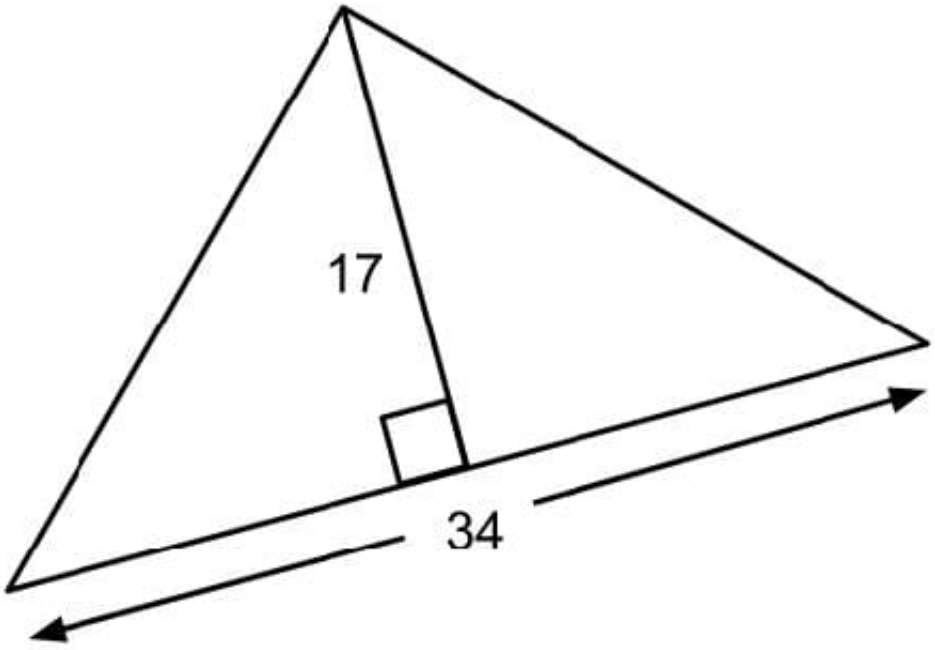
D. isosceles triangle

Correct Answer: C

Explanation:

In an equilateral triangle, all sides are equal, and all angles are equal.

QUESTION 5



In the given diagram, what is the area of the triangle?

A. 26

B. 51

C. 289

D. 102

Correct Answer: C

QUESTION 6

x3 x x4 = _____.

A. x12

B. 2x7

C. 2x12

D. x7

Correct Answer: D

Explanation:

If two powers have the same base, they can be multiplied by keeping the base and adding the powers

together.

QUESTION 7

A tube has a radius of 3 inches and a height of 5 inches.

What\\'s its approximate volume?

A. 34 cubic inches

B. 141 cubic inches

C. 565 cubic inches

D. 45 cubic inches

Correct Answer: B

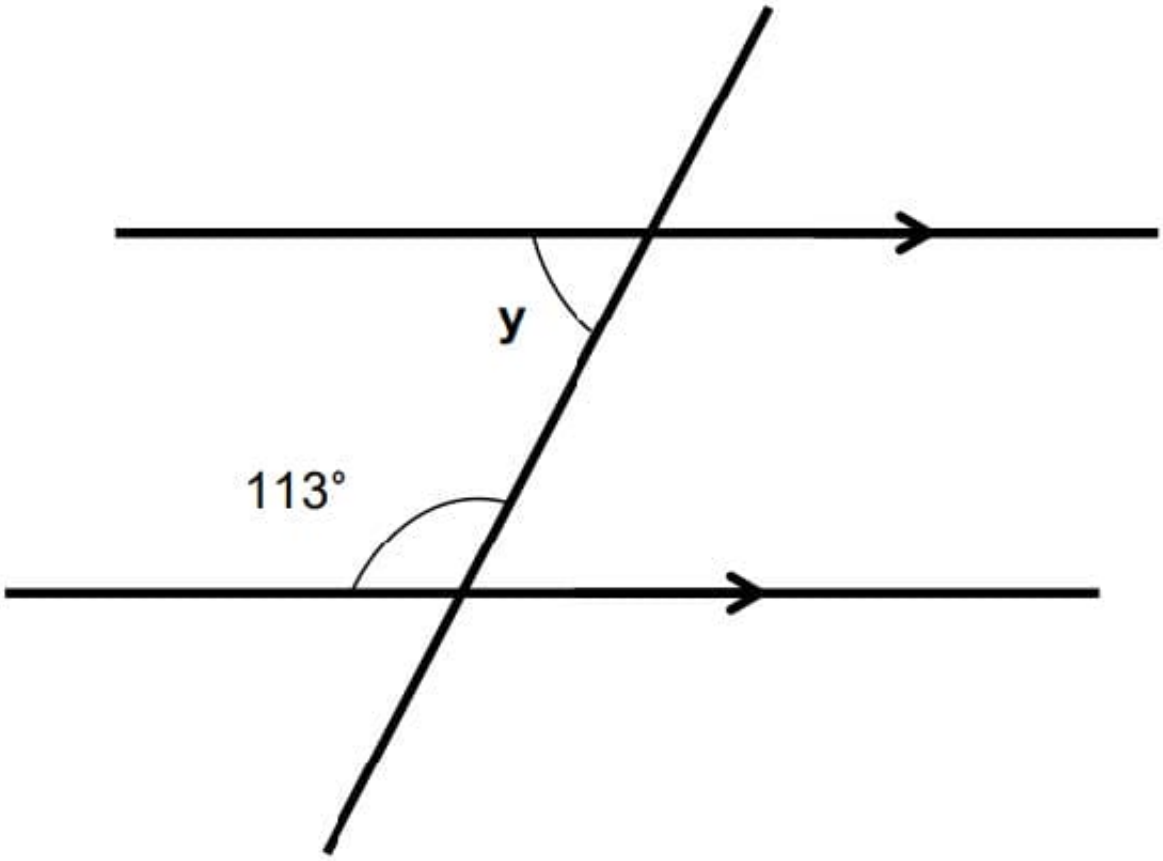
Explanation:

For cylinders, Volume = ?r2(h). In this problem, V = ?(32)(5).

Assume ? is approximately 3.14.

V is approximately equal to (3.14)(9)(5) or 141 cubic inches.

QUESTION 8



Given the diagram of parallel lines, what is the value of y?

A. 247°

B. 67°

C. 46°

D. 293°

Correct Answer: B

QUESTION 9

Which is of the following numbers is NOT a prime number?

A. 53

B. 93

C. 67

D. 127

Correct Answer: B

Explanation:

93 is not a prime number since it is equal to 31 x 3. If you add up the digits of a number and they are

divisible by 3, then the number is also divisible by 3.

QUESTION 10

Evaluate the expression 6a - 3x - 2y, if a = 3, x = 7, and y = 4.

A. -5

B. -40

C. 31

D. 40

Correct Answer: A

Explanation:

Replace the unknowns with the numbers given. (6 x -3) - (3 x -7) - (2 x 4) = -18 + 21 - 8 = -5.

QUESTION 11

What is the maximum number of boxes, each measuring 3 inches by 4 inches by 5 inches, that can be packed into a storage space measuring 1 foot by 2 feet by 2 feet, 1 inch?

A. 120

B. 60

C. 15

D. 48

Correct Answer: A

Explanation: The storage space measurements of 1 foot by 2 feet by 2 feet, 1 inch can be converted to inches as 12 inches by 24 inches by 25 inches. Boxes measuring 3 inches by 4 inches by 5 inches can be stacked so that four of the 3-inch sides make up the 12-inch storage dimension, six of the 4-inch sides fill the 24-inch storage dimension, and five of the 5-inch sides fill the 25-inch storage dimension. There will be 4 x 6 x 5, or 120, boxes packed into the storage space.

QUESTION 12

What is the value of the expression x2 - 5xy + 2y if x = 3 and y = -2?

A. -25

B. -27

C. 32

D. 35

Correct Answer: D

Explanation: Substitute 3 for x and -2 for y in the expression 2 - 5xy + 2y (3)2 - 5(3)(-2) + 2(-2) 9 - 15 (-2) - 4 9 + 30 - 4

QUESTION 13

A rectangular vegetable garden 16 yards long and 4 yards wide is completely enclosed by a fence. To reduce the amount of fencing used, the owner replaced the garden with a square one having the same area.

How many yards of fencing did he save?

A. 4

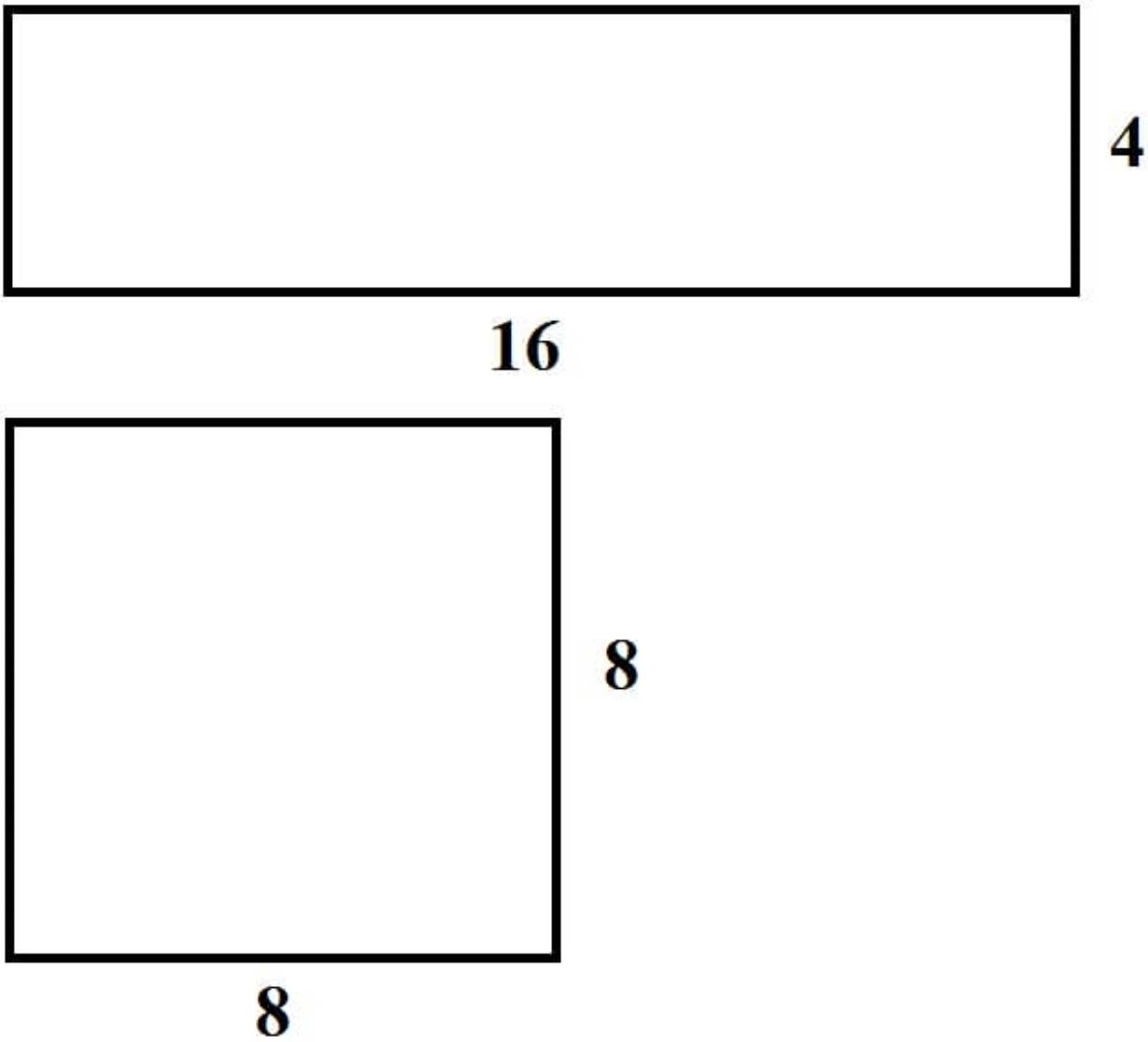
B. 6

C. 8

D. 16

Correct Answer: C

Explanation:



The area of the rectangular garden is equal to the product of its length and width. Area of rectangle = 16 x

4 = 64 square yards.

In order for the square to have the same area, 64 square yards, its sides must each be 8 yards long, since

8 x 8 = 64 square yards. The fence around the rectangular garden has a length of

16 + 4 + 16 + 4, or 40, yards.

The fence around the square garden has a length of 4 x 8, or 32, yards.

The saving in fencing is 40 - 32, or 8, yards.

QUESTION 14

Which of the following is the mode in this series of numbers? 2, 2, 6, 6, 6, 6, 8, 8, 8, 10, 10, 12

A. 8

B. 10

C. 6

D. 12

Correct Answer: C

QUESTION 15

For a special operations air assault mission, one extra soldier for the security element is to be chosen at random from among three soldiers from the 327th Infantry Regiment, two soldiers from the 502nd Infantry Regiment, and five soldiers from the 187th Infantry Regiment.

What is the probability that a soldier from the 327th Infantry Regiment will be chosen?

A. 3/10

B. 1/10

C. 1/3

D. 3/7

Correct Answer: A

Explanation:

The probability of an event occurring is the number of "favorable\\'\\' outcomes divided by the total possible

number of outcomes. Since there are three soldiers from the 327th from which to choose, there are three

possible favorable outcomes for choosing a soldier from that unit.

Since the choice will be made from among a total of 10 soldiers, there are 10 different possible outcomes.

The probability of choosing a soldier from the 327th Infantry Regiment is 3/10.