

# ASVAB-SECTION-6<sup>Q&As</sup>

ASVAB Section Six : Mathematics Knowledge

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**QUESTION 1**

$$(3 \times 3)(5 - 3)(6 + 2) = x^2.$$

What's the value of x?

- A. 6
- B. 12
- C. 144
- D. 64

Correct Answer: B

Explanation:

First solve the left side of the equation:  $(9)(2)(8) = 144$ . So  $x^2 = 144$ .

Find the square root of each side:  $x = 12$ .

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**QUESTION 2**

$$2.5 \times 3^3 = \underline{\hspace{2cm}}.$$

- A. 22.5
- B. 75.0
- C. 67.5
- D. 675.0

Correct Answer: C

Explanation:

$$2.5 \times 3^3 = 2.5 (3 \times 3 \times 3) = 2.5 \times 27 = 67.50.$$

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**QUESTION 3**

$$\text{Solve for } x: 5x - 2x = 7x + 2x - 24$$

- A. 2
- B. -2
- C. 4
- D. -4

Correct Answer: C

Explanation:  $5x - 2x = 7x + 2x - 24$   $3x = 9x - 24$   $-6x = -24$   $6x = 24$

$x = 4$

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#### QUESTION 4

What is  $4.7 \times 53$ ?

- A. 587.5
- B. 235
- C. 5875
- D. 70.5

Correct Answer: A

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#### QUESTION 5

The value of  $8^0$  is \_\_\_\_\_.

- A. 8
- B. 0
- C. 1
- D.  $1/8$

Correct Answer: C

Explanation:

$v^0$  is defined as always equal to 1, provided that  $x$  does not equal 0. Therefore  $8^0 = 1$

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#### QUESTION 6

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  $\frac{3}{10}$ .

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#### QUESTION 7

How many different combinations of shirts and ties are possible if you have 4 shirts and 5 ties?

A. 120

B. 9

C. 30

D. 20

Correct Answer: D

Explanation:

With each of the 4 shirts you can wear one of the 5 ties, so the total number of combinations is  $4 \times 5 = 20$

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#### QUESTION 8

One of the equal angles of an isosceles triangle is 40 degrees.

What is the angle opposite the unequal side?

A. 40 degrees

B. 90 degrees

C. 100 degrees

D. 140 degrees

Correct Answer: C

Explanation:

In an isosceles triangle, two of the sides are equal. This means that the angles opposite them are equal, too. If one is 40 degrees, then so is the other. To find the angle opposite the unequal side, begin by adding the equal angles.

$$40 + 40 = 80 \text{ degrees}$$

To find the third angle, subtract this amount from 180 (the number of degrees in any triangle)

$$180 - 80 = 100 \text{ degrees (third angle).}$$

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#### QUESTION 9

If  $-7x = 49$ , then  $x =$  \_\_\_\_\_.

- A. 7
- B. 0
- C. -7
- D. 14

Correct Answer: C

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#### QUESTION 10

Solve for  $x$ :  $5x + 7 = 6(x - 2) - 4(2x - 3)$

- A. 1
- B. -1
- C. 2
- D. -2

Correct Answer: B

Explanation:  $5x + 7 = 6(x - 2) - 4(2x - 3)$   
 $5x + 7 = 6x - 12 - 8x + 12$   
 $5x + 7 = -2x$   
 $7x + 7 = 0$   
 $7x = -7$   
 $x = -1$

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#### QUESTION 11

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  $2 \times 1$  and then add 3.

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**QUESTION 12**

$(x^3)^3 =$  \_\_\_\_\_.

A.  $3x^3$

B.  $x^6$

C.  $x^9$

D.  $2x^6$

Correct Answer: C

Explanation:

$(x^3)^3$  is the same as  $(x^3) (x^3) (x^3)$ .

Multiply exponents with the same base by keeping the base and adding the exponents:  $(x^3) (x^3) (x^3) = x^9$ .

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**QUESTION 13**

If  $x = 8$ , what's the value of  $y$  in the equation:

$y = (x^2 \div 4) - 2$ ?

A. 14

B. 16

C. 18

D. 20

Correct Answer: A

Explanation:  $y = (x^2 \div 4) - 2$   $y = (8^2 \div 4) - 2$   $y = (64 \div 4) - 2$   $y = 16 - 2 = 14$

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**QUESTION 14**

What is 0.3172 rounded to the nearest tenth?

- A. 0.3
- B. 0.32
- C. 0.317
- D. 0.3172

Correct Answer: A

Explanation:

0.32 is rounded to the hundredths place.

0.317 is rounded to the thousandths place.

0.3172 is rounded to the nearest ten-thousandths place.

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#### QUESTION 15

In the equation  $3x + 7y = 21$ , at what point is the x-axis intersected?

- A. (7, 0)
- B. (0, 7)
- C. (0, 4)
- D. (4, 0)

Correct Answer: A

Explanation:

The x axis is intersected at the point where the y-coordinate is 0 ( $y = 0$ ). Substitute 0 for the y variable in the equation.

$$3x + 7y = 21 = 3x + 7(0) = 21 = 3x = 21.$$

Therefore,  $x = 7$ . The point's coordinates are (7, 0).

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