

ASVAB ARITHMETIC REASONING PRACTICE TEST

1. There were 6 majors, 14 lieutenants, and 60 soldiers in the room. What fraction of those present in the room are lieutenants?

A 12.50%

B 14%

C 17.50%

D 20%

2. There are 6 blue balls, 4 red balls, and 2 white balls. What is the probability of Chad selecting a white ball?

A $\frac{1}{8}$

B $\frac{1}{6}$

C $\frac{1}{4}$

D $\frac{1}{2}$

3. Barbara wants to buy three ribeye steaks from her local store for a total of 22.80. At the checkout, Barbara learns that she only has a 20 note, so decides to leave 1 steak behind. How much change did Barbara receive?

A \$2.80

B \$3.40

C \$4.80

D \$5.20

4. A vehicle travels 208 miles in 4 hours. Approximately how many miles is the vehicle travelling during a 25-minute period?

A 20.97 miles

B 21.67 miles

C 22.34 miles

D 23.91 miles

5. In a zoo, there are three times as many lions than zebras, and four times as many elephants than lions. If there are 2 zebras, how many elephants are in the zoo?

A 6 elephants

B 12 elephants

C 18 elephants

D 24 elephants

6. Alex bought a new car for \$42,600. Year on year on year, the vehicle depreciated by 10% in value. What was the value of the vehicle after 3 years?

A \$29,820

B \$31,055

C \$32,450

D \$33,010

7. Benjamin earns \$12.80 per hour, 15 percent more than his

colleague, Sophie. If Sophie works 38-hours per week, what is her take home weekly salary?

A \$390.66

B \$396.70

C \$401.80

D \$413.44

8. The population of a country increased by 10% two years in a row, from 2019 to 2021. If the population at the start of 2019 was 2,134,000, what was the population at the beginning of 2021?

A 2,224,800

B 2,268,400

C 2,398,200

D 2,494,800

9. Officer Tim began his shift at 2.47am and finished 13 hours and 27 minutes later. What time did Officer Michael finish work?

A 1.17pm

B 2.49pm

C 3.54pm

D 4.14pm

10. A new measure was being passed by the army barracks. Three-quarters of the force, or 120 people, agreed to the new

measure. How many people disagreed with the new measure?

- A 15 people
- B 20 people
- C 30 people
- D 40 people

11. Nathan purchased a new jumper for \$24.60. If Nathan received an 18% discount, what was the original sale price of the jumper?

- A \$27.00
- B \$28.00
- C \$29.00
- D \$30.00

12. Each 10 inches on a map represents an actual distance of 140 feet. If the map is 140 inches wide, how long does the map actually represent?

- A 1,960 feet
- B 2,140 feet
- C 2,760 feet
- D 3,110 feet

13. It's Michael's birthday today. In a year from now, Michael will be twice as old as he was 9 years ago. How old is Michael today?

- A 17 years old
- B 19 years old
- C 23 years old
- D 25 years old

14. If a vehicle travels 480 kilometers in 6 hours. How many kilometers will the vehicle travel in 8 hours?

- A 580 kilometers
- B 620 kilometers
- C 640 kilometers
- D 720 kilometers

15. One-half of one-quarter of one-fifth of 864,400 soldiers came from indigenous backgrounds. How many officers came from an indigenous background?

- A 21,610
- B 48,800
- C 79,210
- D 125,420

Answers

1. C

There is a total of 80 people in the room $(14/80) \times 100 = 17.5\%$ of the room are lieutenants.

2. B

There is a total of 12 balls (6 blue balls; 4 red balls; and 2 white balls).

Given there are 2 white balls:

$2 \text{ white balls} / 12 \text{ total balls} = 1/6$

3. C

Barbara can only afford to buy two of the three steaks.

Three steaks cost \$22.80, meaning one steak costs \$7.60.

That means two steaks cost \$15.20 - so, Barbara receives \$4.80 in change from the \$20 bill handed to the cashier.

4. B

208 miles over 4 hours = 52 miles per hour

52 miles per hour / 60 minutes = 0.866 miles per minute

0.866 miles per minute x 25 minutes = 21.67 miles

5. D

There are 2 zebras and three times as many lions, so there are 6 lions.

There are four times as many elephants than lions, so there are 24 elephants in the zoo.

6. B

Remember, the car depreciates - year on year - by 10%.

You cannot therefore take 10% of \$42,600, multiply this by 3, and subtract it from the original value of the year. That's because the value of the car is different at the end of each year.

Year 1 - 10% of 42,600 = 4,260.

$42,600 - 4,260 = 38,340$ Value of car at the end of the first year:

Year 2 - 10% of 38,340

$38,340 - 3,834 = 34,506$ Value of car at the end of the second year:

Year 3 - 10% of 34,506 = 3,450.60

$34,506 - 3,450.60 = \$31,055.40$

Value of car at the end of three consecutive years of 10% depreciation = \$31,055 (when rounded down).

7. D

Benjamin earns \$12.80 per hour, and Sophie earns 15% less than this.

15% of 12.8 = 1.92

$12.8 - 1.92 = \$10.88$

Sophie works 38-hours per week, so we multiply this by \$10.88 to give us her take home weekly salary is \$413.44.

8. D

$$10\% \text{ of } 2,134,000 = 213,400$$

At the end of 2019, the population of the country was 2,268,400.

Now, it increases by 10% again throughout 2020, so we perform the same calculation but with the revised population number.

$$10 \text{ percent} \times 2,268,000 = 226,800$$

$$2,268,000 + 226,800 = 2,494,800$$

9. D

Here, we need to add 12 hours to 2.47am = 2.47pm

That leaves 1 hour and 27 minutes to add.

$$2.47\text{pm} + 1 \text{ hour} = 3.47\text{pm} + 27 \text{ minutes} = 4.14\text{pm}$$

10. C

If three-quarters – or 75% - agreed, then 25% disagreed.

$$75\% \text{ of } 120 \text{ people} = 90 \text{ people.}$$

Therefore, 30 people disagreed with the new measure.

11. D

To calculate the original price of a product, you need the sale price and the discount percentage (you need to convert the percentage to a decimal to use the equation).

Then, you plug these values into the following equation:

$$\text{Original Price} = \text{Sale Price} / (1 - \text{Discount})$$

$$24.60 / (1 - 0.18) 24.60 / 0.82$$

= \$30.00

12. A

Each 10 inches on a map represents 140 feet in distance in the real world.

If we divide both sides by 10, we learn that 1 inch on the map represents 14 feet.

Given that map is 140 inches wide, the total length the map represents is 1,960 feet.

13. B

We don't know Michael's age today, so let that be represented by the unknown value, x .

Michael's age after 1 year can therefore be represented as $(x + 1)$ years. On the right-hand side of the following equation, this represents twice (2) and $(x - 9)$ represents "...as old as he was 9

years ago".

All we need to do now is complete the equation:

$$x + 1 = 2 (x - 9)$$

$$x + 1 = 2x - 18$$

$$1 + 18 = 2x - x$$

$$x = 19 \text{ years old}$$

14. C

The vehicle travels 480 kilometers in 6 hours - meaning that the vehicle travels 80 kilometers in 1 hour.

$$80 \text{ kilometers} \times 8 \text{ hours} = 640 \text{ kilometers.}$$

15. A

Always start at the beginning and work forward.

One-half of 864,400 = 432,200

One-quarter of 432,200 = 108,050

One-fifth of 108,050 = 21,610

21,610 officers came from an indigenous background.

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