

Question 1

On which of the following would a spring be used?

- a. a pogo stick
- b. a car door
- c. a house door
- d. an electrical cord

Question 2

A wrench uses which simple machine to turn a bolt?

- a. lever
- b. inclined plane
- c. pulley
- d. wheel and axle

Question 3

Water is flowing into a tank through pipe A at 6 gallons per minute and through pipe B at 7 gallons per minute. The water is flowing out of the tank through pipe C at 8 gallons per minute. How much more water will be in the tank at the end of 5 minutes?

- a. 13 gallons
- b. 15 gallons
- c. 21 gallons
- d. 25 gallons

Question 4

A wrench is used to turn a bolt that has 20 threads per inch. After 15 complete turns of the wrench, the bolt will have moved

- a. $\frac{1}{4}$ inch
- b. $\frac{1}{2}$ inch
- c. $\frac{3}{4}$ inch
- d. 1 inch

Question 5

A garden hose is used to siphon the water out of an above-ground swimming pool. What makes the water flow out of the pool and through the garden hose?

- a. air pressure
- b. water pressure
- c. the weight of the water
- d. magnetism

Question 6

To keep a nut tight on a bolt you could use _____

- a. super glue
- b. a lock washer
- c. a lock nut
- d. a lock washer and a lock nut

Question 7

Which of the following could be used to transfer water between two adjacent swimming pools?

- a. a siphon
- b. a lever
- c. a pulley
- d. a hoist

Question 8

If a bar of steel is heated it will _____.

- a. expand
- b. contract
- c. warp
- d. remain unchanged

Question 9

If a train averages 70 mph and travels for 90 minutes, how many miles does it travel?

- a. 105 miles
- b. 140 miles
- c. 70 miles
- d. 109 miles

Question 10

When a mass of air expands, which of the following is most likely to happen?

- a. The air warms up.
- b. The air cools down.
- c. The air stays at the same temperature.
- d. The air contracts.

Question 11

A gear and pinion have a ratio of 5:1. If the gear is rotating at a speed of 150 revolutions per minute (rpm), the speed of the pinion is most nearly

- a. 750 rpm
- b. 300 rpm
- c. 150 rpm
- d. 30 rpm

Question 12

A hoist is normally used to _____.

- a. lift objects
- b. cut metal
- c. cut wood
- d. stretch plastic

Question 13

When you add water to a tank, water pressure on the bottom will

- a. stay the same
- b. decrease
- c. increase
- d. it depends on the temperature of the water

Question 14

Water is flowing from a 3-inch pipe into a 2-inch pipe. Pressure in the 2-inch pipe will be

- a. higher, and water velocity will be higher.
- b. higher, and water velocity will be lower.
- c. lower, and the water velocity will be higher.
- d. lower, but velocity will not change.

Question 15

Water is flowing into a tank through an upper faucet at the rate of 240 gallons per hour and drinking out of the tank through a lower faucet at a rate of 1 gallon per minute.

How many more gallons of water will be in the tank after 6 minutes?

- a. 14
- b. 16
- c. 18
- d. 22

Question 16

When you drag a concrete block across the pavement, one way to reduce the amount of pulling force needed would be to:

- a. get a heavier block
- b. use a better rope
- c. pull harder
- d. lubricate the pavement

Question 17

Which action describes a clock pendulum swaying back and forth?

- a. periodic motion
- b. relative velocity
- c. free-falling body
- d. all of the above

Question 18

A fuel tank is receiving fuel at the rate of 1 gallon per minute. It is supplying an engine that uses 3 gallons per hour. How many gallons of fuel will be in the tank after 1/2 hour, assuming the tank was empty at the start?

- a. 18.5
- b. 28.5
- c. 31.5
- d. 57

Question 19

A screw with 12 threads per inch has _____ than a screw with 8 threads per inch.

- a. a larger mechanical advantage.
- b. a smaller mechanical advantage.
- c. more strength.
- d. less strength.

Question 20

Water is flowing into a tank at the rate of 180 gallons per minute. However, the tank has a leak, and water is leaking out at the rate of 2 gallons per second. How long will it take to add 120 gallons?

- a. 1 minute
- b. 2 minutes
- c. 3 minutes
- d. 4 minutes

Question 21

If gear A and gear B are meshed, and gear B rotates twice as fast as gear A, the gear ratio of A:B is

- a. 2:1
- b. 1:1
- c. 0.5:1
- d. 1:2

Question 22

In a class I lever with an MA of 4, if the effort distance measures 8 feet, how long is the load distance?

- a. 2 feet
- b. 4 feet
- c. 8 feet
- d. 16 feet

Question 23

If you were pushing a block of ice, which surface would provide the least friction?

- a. ice
- b. rock
- c. wood
- d. sand

Question 24

To lift a 600-pound piano, Jeff and Scott decide to use a plank placed under one end of the piano. The plank is 3 feet long. If a fulcrum is placed under the plank, one foot away from the piano, how much force must be applied to the plank to lift the piano?

- a. 150 pounds
- b. 200 pounds
- c. 250 pounds
- d. 300 pounds

Question 25

A spring, a device that can resume its original shape after bending, is best made from which of the following materials?

- a. ceramic
- b. paper
- c. steel
- d. wood

ANSWERS: ASVAB Practice Test – Mechanical Comprehension

1. A
2. D
3. D
4. C
5. A
6. A
7. A
8. A
9. A
10. B
11. A
12. A
13. C
14. C
15. C
16. D
17. A
18. B
19. A
20. B
21. A
22. A
23. A
24. A
25. C