Question 1
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 2
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. 1/4 inch
   b. 1/2 inch
   c. 3/4 inch
   d. 1 inch

Question 3
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 4
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 5
Water is flowing into a tank through an upper faucet at the rate of 240 gallons per hour
and draining 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 6
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
Question 7
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 8
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 9
A wrench uses which simple machine to turn a bolt?
   a. lever
   b. inclined plane
   c. pulley
   d. wheel and axle

Question 10
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 11
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 12
If a bar of steel is heated it will ________.
   a. expand
   b. contract
   c. warp
   d. remain unchanged
Question 13
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 14
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 15
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 16
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 17
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 18
A hoist is normally used to ________.
- a. lift objects
- b. cut metal
- c. cut wood
- d. stretch plastic
Question 19
If you were pushing a block of ice, which surface would provide the least friction?
   a. ice
   b. rock
   c. wood
   d. sand

Question 20
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 21
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 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
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 24
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 25
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
ANSWERS: ASVAB Practice Test – Mechanical Comprehension

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