

ISTO

Sample Papers

Junior



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GUIDELINES

- ▶ This booklet contains two sample papers.
- ▶ The sample paper 1 is unsolved and the sample paper 2 is solved.
- ▶ Each sample papers contains a total of 25 questions.
- ▶ The sample papers describe the type of questions that will be asked in the examination. The sample papers do not intend to describe the pattern of ISTO 2020 exam.

- 1) Rahul build a car. Which one of these colour that Rahul should paint to reduce the heat of the car?



- A. White
- B. Black
- C. Orange
- D. Red

- 2) What type of machine is the bottle opener?



- A. Lever
- B. Pulley
- C. Wheel
- D. Inclined plane

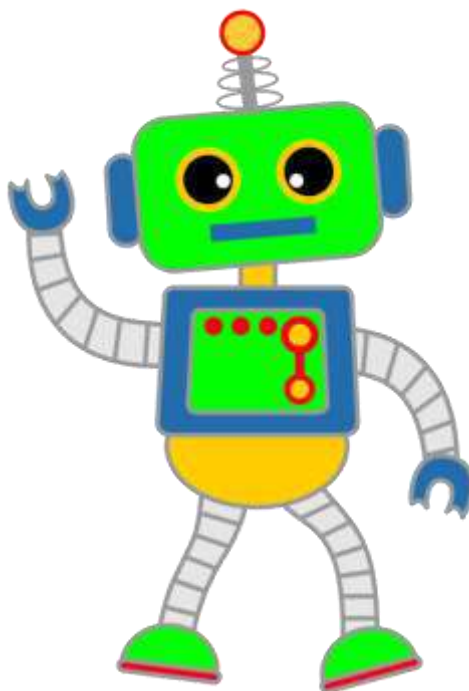
- 3) On a stationary sail boat, air is blown from a fan attached to the boat. The boat



- A. Does not move.
 - B. Moves in opposite direction in which the air is blown.
 - C. Moves in the same direction in which air blows.
 - D. Spins around.
- 4) Gauri places a metal spoon in a cup of hot tea. The metal spoon becomes hot after a while. Which of the following explains this correctly?

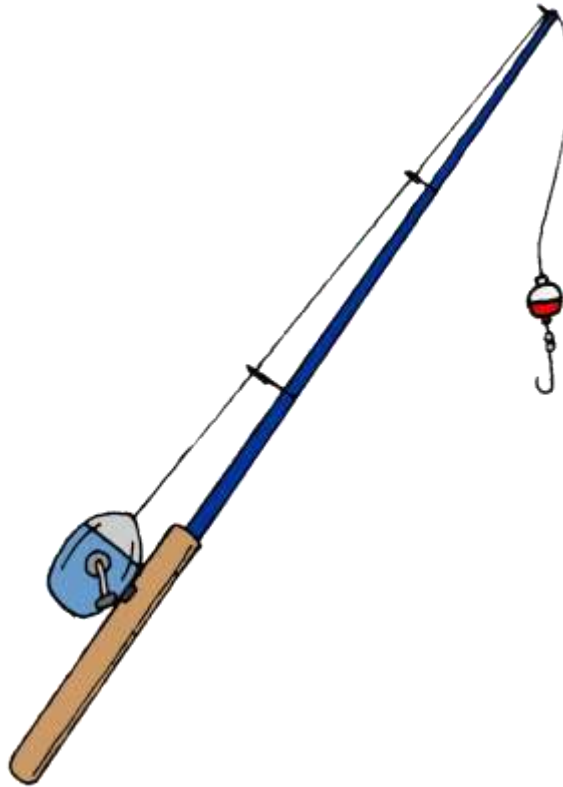


- A. The cup loses heat to the hot tea
 - B. The spoon loses heat to the hot tea
 - C. The hot tea gains heat from the spoon
 - D. The spoon gains heat from the hot tea
- 5) Ravi is throwing a party, and to make an impression at a party he wants to make a robot whose eyes will be glowing. Which of the electronic components he can use to build the robot parts?

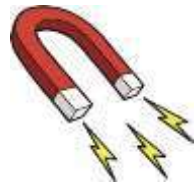


- A. Eyes-LED, leg-battery, hands-wheel, mouth-speaker
- B. Eyes- LED, leg-wheel, hands-gear and motors, mouth-speaker
- C. Eyes –wheel, leg-hands, hands-leg, mouth-wheel
- D. Eyes –gears and motors, leg-wheel, hands – speaker, mouth-LED

6) What simple machine is used to make up a fishing rod?



- A. Lever, wheel and axle, pulley
 - B. Wheel and axle, inclined plane and pulley
 - C. Wheel and axle, lever and inclined plane
 - D. Wheel and axle, wedge, lever and pulley
- 7) Ravi was eating cornflakes poured in milk while he was playing with magnets, accidentally he brought the magnet near the bowl while steering the cornflakes slowly, he observes small particles attracted towards the magnet. Why?



- A. Milk attracts towards magnet
 - B. Bowl attracts towards the magnet
 - C. Corn flakes contain iron which attracts towards metal
 - D. Milk and bowl attracts towards the magnet
- 8) Akshay goes for an adventure trip in the jungle for two days, there is no electricity in the Jungle. He has only motor, a motor wheel, connecting wire and led, he connects the led with the motor and then attach the wheel. When he rotate the wheel the LED starts glowing and he can use it as a torch .What will happen if the wheel is rotated in opposite direction using same circuit?



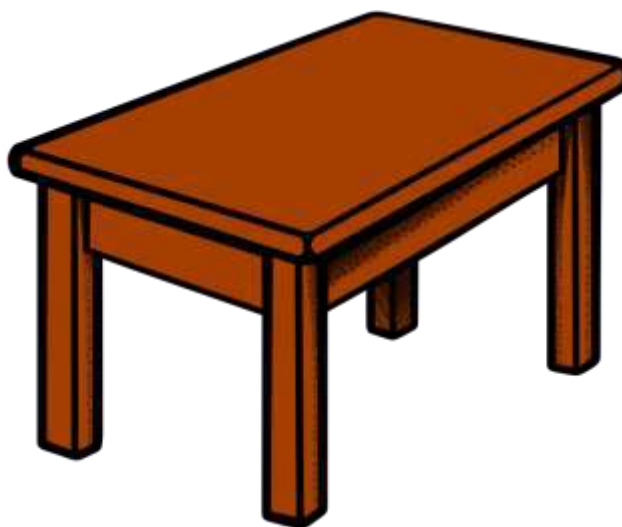
- A. Led will start blinking
- B. Led will stop glowing.
- C. No change in the brightness of led.
- D. Led will blow off due to high power generated across it.

9) John was going to plug the TV cable into the switchboard with wet hand, what situation will occur now?



- A. Switch board will burn.
- B. TV will get switched ON.
- C. John will get a shock.
- D. TV will stop working.

10) Which force opposes the motion of a table along the floor?



- A. Gravitational force
- B. Pressure
- C. Table force
- D. Frictional force

11) Which one of the following options would be better to attach bellow the Rubik's cube that it could be moved easily?



- A. Pencil
- B. Rubber
- C. Sharpener
- D. Ball

12) Alex saw a star located on the west in the sky just before sunrise today, where must the star have been located just after sunset, the previous evening?



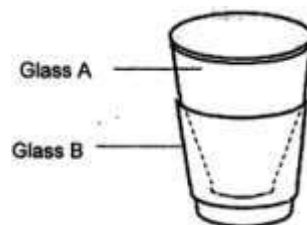
- A. north
- B. south
- C. east
- D. west

13) Which of the following car will cause less environmental pollution?



- A. Diesel car
- B. Petrol car
- C. CNG car
- D. Hybrid Electric car

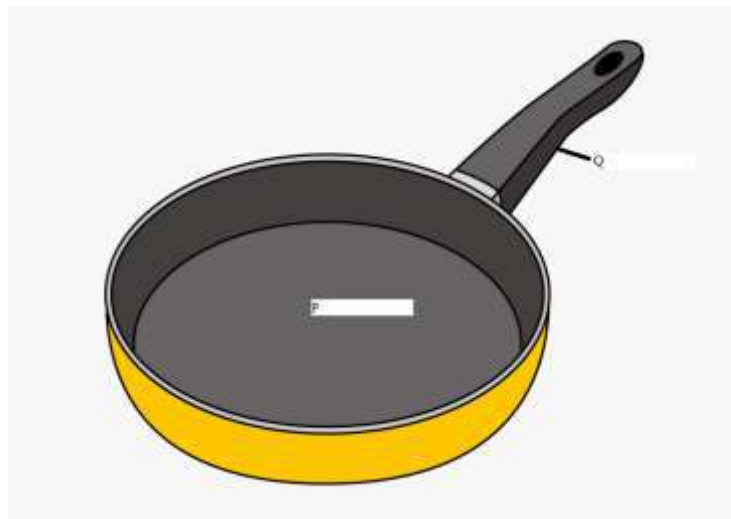
14) The diagram below shows two glasses, A and B which are stuck together.



Bunny tries to separate the two glasses but finds it difficult to do so. What should Bunny do in order to separate the two glasses?

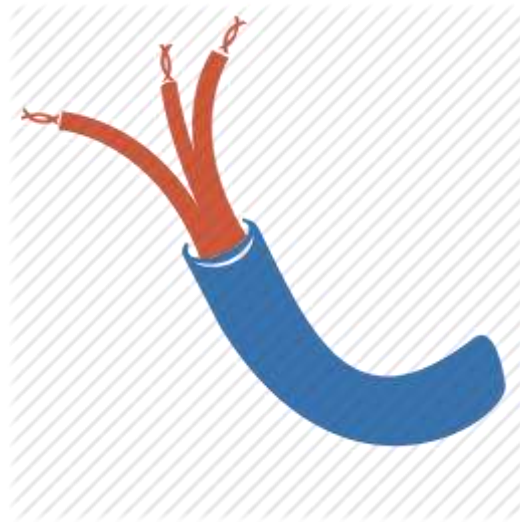
- A. Pour iced water into Glass A and put Glass B in iced water.
- B. Pour iced water into Glass A and put Glass B in warm water.
- C. Pour warm water into Glass A and put Glass B in iced water.
- D. Pour warm water into Glass A and put Glass B in warm water.

15) Mrs. Tim wants a rust-proof frying pan which is to conduct heat quickly. She also wants to be able to hold the frying pan without burning her hand.



	Part P	Part Q
(A)	Stainless steel	Wood
(B)	Iron	Stainless steel
(C)	Plastic	Rubber
(D)	Copper	Copper

16) Anju is running short of connecting wires. To complete an electric circuit, she may use a



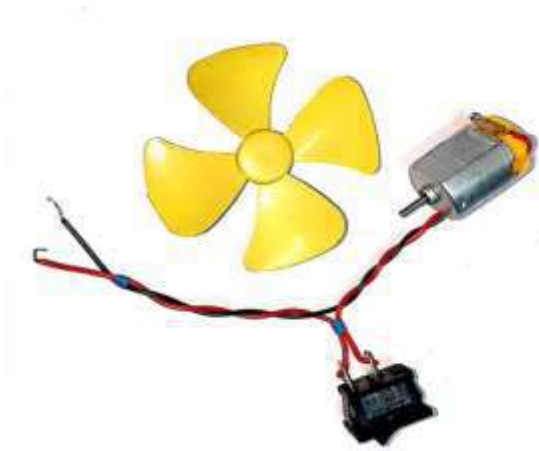
- A. Glass bangle
- B. Thick thread
- C. Rubber pipe
- D. Steel spoon

17) Which of the following combination of components can be used to build a “lightning system” for a cycle?



- A. LED, Switch and Wire
- B. Wire, LED and Pencil
- C. Battery, Pencil and Motor
- D. LED, Motor and Wire

- 18) Rahul made a fan using motor, toy fan, battery, a switch and connecting wires. When he switched ON, the fan rotates clockwise. What should Rahul do to rotate the fan in anticlockwise direction?



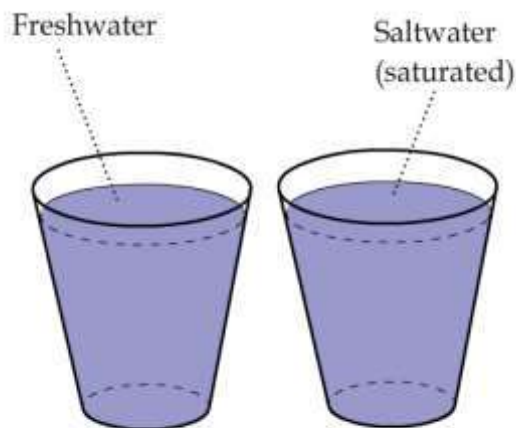
- A. Reverse the polarity of motor
 - B. Use more battery
 - C. Don't use switch
 - D. Use magnets.
- 19) Which of the following activities will produce heat?



- I. Bending a paperclip back and forth repeatedly
- II. Rubbing hands together
- III. Hitting a piece of metal with a hammer

- A. I and II Only
- B. I and III only
- C. II and III only
- D. I, II and III

20) Smith and Albert were arguing about which water will freeze first. Salt water or normal water. Smith is saying that salt water will freeze first and Albert is saying normal water will freeze first. Who is right?



- A. Albert
- B. Smith
- C. Both are right
- D. None of them is right.

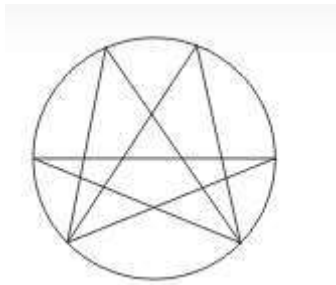
21) Sam accepts a challenge that he has to put the pressure without breaking the egg. What side of the raw egg Sam has to hold without breaking it?



- A. Front and back
- B. Top and bottom
- C. Right and left
- D. Replace raw egg with apple

- 22) What day comes three days after the day which comes two days after the day which comes immediately after the day which comes two days after Monday?
- A. Monday
 - B. Tuesday
 - C. Friday
 - D. Saturday

- 23) Find the number of triangles in the given figure?

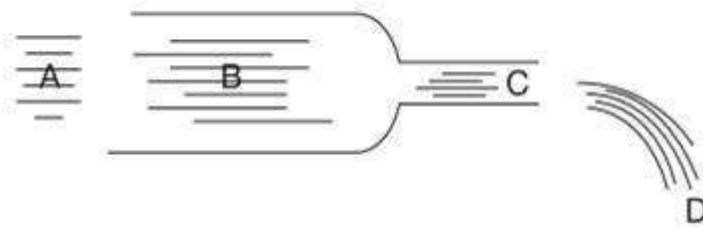


- A. 24
 - B. 22
 - C. 28
 - D. 26
- 24) In each of the following questions find out the alternative which will replace the question mark.

Writer : Pen :: ? : ?

- A. Needle: Tailor
- B. Artist: Brush
- C. Painter: Canvas
- D. Teacher : Class

25) A large volume of water is gushing through a pipe which narrows at the outlet. At which point, A, B, C or D will the water flow fastest?



- A. A
- B. B
- C. C
- D. D

- 1) While watching a science show Ernest learned that wood is bad conductor of electricity. Next day in the morning he picks wooden stick from his garden and tested it using basic electrical circuit with the ammeter. What could be the possible reason?



- A. At low temperature in morning can conduct electricity
 - B. Wooden stick is good conductor of electricity but wooden log is not.
 - C. Morning dew get absorb and due to presence of water, it can conduct electricity (ANSWER)
 - D. Air breezes causes the molecule of wood to move fast that can conduct electricity.
- 2) Zane built an boat and at the end of the boat he attach the motor when he put the boat in the water the boat in the water going in the backward instead of forward what can zane can do to make the boat moving in forward direction?



- A. Change the battery
- B. Change the wire
- C. Change the polarity of motor (ANSWER)
- D. Change the body of boat.

3) Which one of these is heavier

1kg of iron or 1kg of cotton



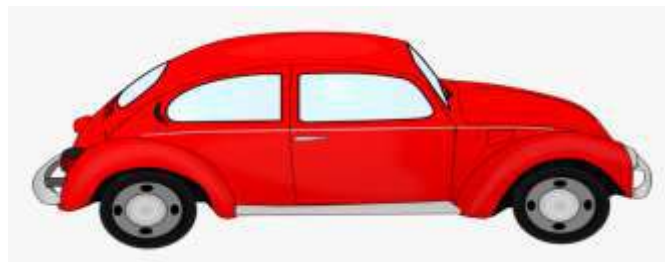
A. 1Kg of potato

B. 1kg of cotton

C. Both are same weight (ANSWER)

D. Replace potato with tomato

4) Russel was making a toy car to play but instead of making a wheel shape in circular he made the wheel in oval. What will be the effect on the movement of the car?



A. car will show normal movement

B. car will follow to and far movement

C. car will show circular movement

D. speed of car change constantly. (answer)

- 5) Wyne plug the Tv cable into the switchboard with a wet hand and he get shock. Tell me why this happened?



- A. Water is good conductor of electricity (answer)
 - B. Switch screw is loose
 - C. plug wire has cut
 - D. Rahul nails conduct electricity
- 6) Robin and Rachel buy balloons. Robin buys a normal air balloon and Rachel buys the helium air balloon, Rachel is happy that his balloon float more than Robin balloon. What is the reason that Rachel balloon floats more?



- A. Robin balloon air is lighter than Rachel balloon air
- B. Robin balloon is bigger than Rachel balloon
- C. Rachel balloon air is lighter than Robin balloon (answer)
- D. Rachel height is bigger than Robin.

- 7) Which one of these you will attach below the Rubix cube to displace the Rubix cube in figure with lessor force

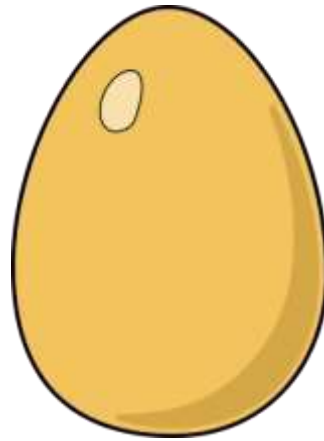


- A. Pencil (answer)
 - B. Rubber
 - C. Sharpner
 - D. Ball
- 8) Joey and Chandler are competing in a competition in and very cold environment. In that competition, they have to melt a piece of ice first before the other. Both are wearing gloves, Joey uses a technique in which he is rubbing the ice and Chandler uses warm air blowing from his mouth to melt the ice now tell who will win the competition?



- A. Joey (answer)
- B. Chandler
- C. No one won
- D. Every one wins

- 9) Ross accepts a challenge that he has to put the pressure without breaking the egg so, now tell me what side of the raw egg sham has to hold without breaking it?

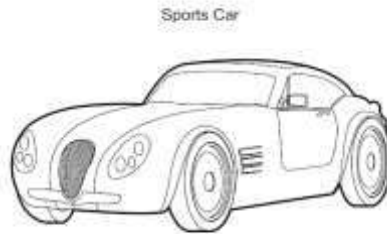


- A. Top and bottom (answer)
 - B. Front and back
 - C. Right and left
 - D. Replace raw egg with apple
- 10) Sheldon and Gunther were making Mr.Potato from potato and for making Mr.Potato legs and hands are using straw but it is difficult to put the straw inside the potato. So now how can they do that task?



- A. Place the sprinkler at ground level.
- B. Reduce the diameter of the sprinkler nozzle. (Answer)
- C. Move the water supply tank closer to the field.
- D. Increase the diameter of the water supply tank.

- 11) Ross build a car. Which one of these colour that Ross should paint to reduce the heat of the car?



- A. White (Answer)
B. Black
C. Orange
D. Red
- 12) In the above figure, there are two beakers (beaker 1 and beaker2) connected with the pipe and both beakers have the same amount of water. How would you make water flow from beaker 2 to beaker 1 without changing the amount of water in any of the beaker?

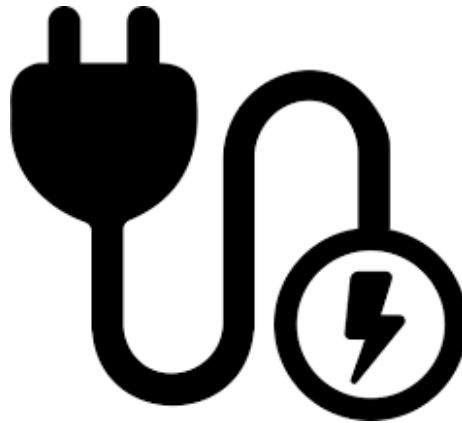


- A. Raising the height of 2nd beaker. (answer)
B. Raising the height of 1st beaker.
C. Replacing the pipe with a small pipe
D. Break both the beaker.

- 13) Fan wong has light up a bulb but he doesn't have any battery but fan wong has some materials:

The motor of a toy car, led bulb, pen, paper

Which of the following device used as a power source?



- A. Motor of a toy car (answer)
B. Led bulb
C. Pen
D. Paper
- 14) Kwame has 24v battery, but he is willing to rotate a motor of 12 v(maximum rating).which of the following material he can be used to connect terminals of the battery with the motors.



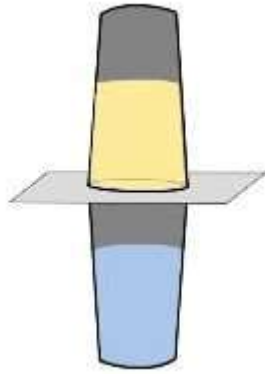
Battery



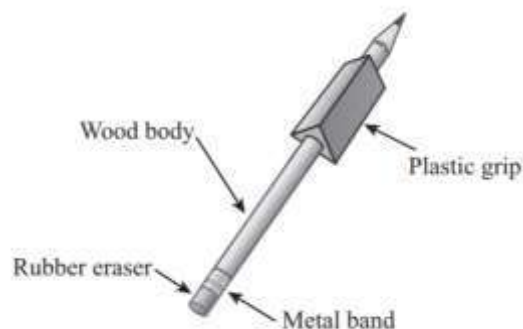
12 Volt

- A. Dust particle
B. Sand
C. Sea water (answer)
D. Copper wire

- 15) Jessica removes the barrier between two different liquid's upper one is yellow and lower one is blue depicted in the given picture. What would happen afterward?



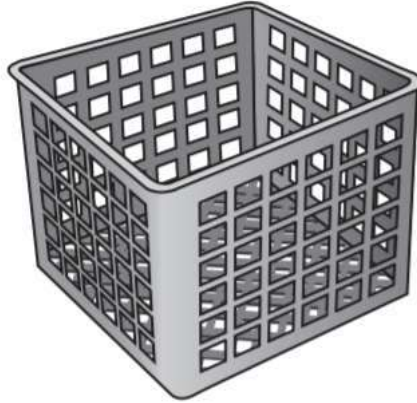
- A. It will mix and change to green colour immediately. (answer)
B. It will mix and change the blue colour immediately.
C. Uniform mixing of colour.
D. Rainbow is formed.
- 16) The picture below shows four parts of a wooden pencil.



Which part of the pencil is the best conductor of electricity?

- A. Metal band (Answer)
B. Plastic grip
C. Rubber eraser
D. Wood body

17) A crate for carrying milk containers is shown below.



An engineer is designing milk containers to put in the crate. In her design, she wants to fit as many milk containers as possible in each crate. Which of the following features of the milk containers is most important to consider in her design?

- A. Color
- B. Hardness
- C. Shape (Answer)
- D. Weight

18) Chris left a glass of water on a windowsill. When he looked at the glass a few days later, some of the water had evaporated. Which of the following best describes what happened to the particles of water that evaporated?



- A. They became larger in size.
- B. They spread out into the air.

C. They were absorbed by the glass.

D. They passed through the glass into the air.(Answer)

19) Which of the following best explains why electrical wires are usually covered with plastic or rubber?



A. to insulate the electrical wire (Answer)

B. to keep the electrical wire warm

C. to make the electrical wire stronger

D. to make the electrical wire more flexible

20) On planet X, the local terminology for earth, water, light, air and sky are light, air, earth, sky and water respectively. If someone is thirsty there, what would he drink?



- A. Sky
- B. Water
- C. Air (Answer)
- D. Light.

21) Raju has to go to the school and he has to lock the door but suddenly he accidentally drop the key and key goes inside two rocks and he can't take out the keys with his hands

Raju has some object

Nail, Wires, Cardboard, Scissor, Battery, Paper

Can you tell me out of these objects which object he can use to make a thing that takes out the key?

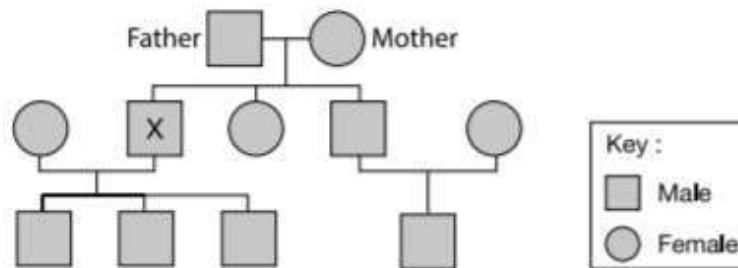
- A. Nail, Wires, Cardboard
- B. Nail, Wires, Scissor
- C. Nail, Wires, Battery(answer)
- D. Cardboard, Scissors, Paper

22) Steel cans are separated from aluminium cans in a recycling center. Which of the following is the best way the recycling centre can separate the steel cans from the aluminium cans?



- A. sort the cans by size
- B. put the cans in water
- C. cool the cans to a low temperature
- D. put the cans under an electromagnet (Answer)



23) Study the given family tree carefully. How many nephews does 'X' have?













- A. Three
- B. Four
- C. One (Answer)
- D. None

24) At Burger Shack, the price of 2 hamburgers and 2 orders of fries is equal to the price of 3 hamburgers, as modelled below

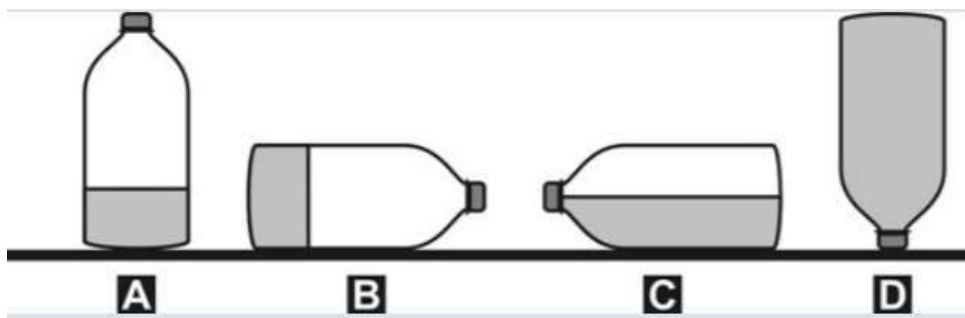
$$2 \text{ hamburgers} + 2 \text{ fries} = 3 \text{ hamburgers}$$

Key	
	represents the cost of a hamburger
	represents the cost of an order of fries

Which of the following equations models the price of an order of fries in terms of the price of a hamburger at Burger Shack?

- * A.  = 
- B.  = 
- C.  =  + 
- D.  =  + 

25) Which of the following closed bottles DEFINITELY contains a SOLID?



- A. A
- B. B
- C. C
- D. D(answer)