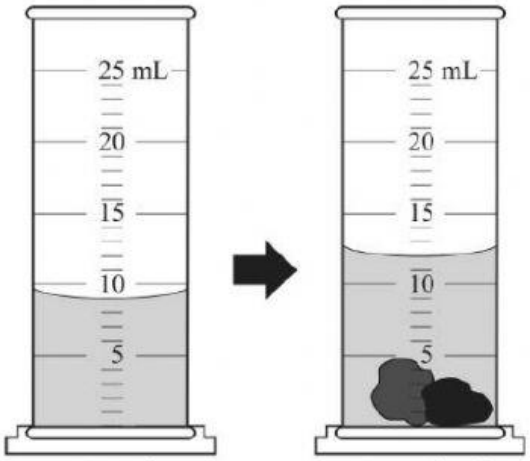
PTS PRACTICE 2- YEAR 10 PHYSICS **SCIENCE DEPARTMENT**

Name: _____ **Date:** _____

1. A student puts water in a graduated cylinder and carefully adds two small rocks.



water only water and rocks

What is the volume of the rocks?

A. 2 mL B. 3 mL C. 5 mL D. 12 mL

2. Maria checked the outside temperature before and after school. According to the thermometers below, how much did the temperature change during the day?

before school temperature after school temperature

A. It increased by 2°C.

B. It increased by 14°C.

C. It decreased by 2°C.

D. It decreased by 14°C.

3. To express the distance between the Milky Way galaxy and other galaxies, the *most* appropriate unit of measurement is the

A. meter. B. kilometer.

C. light-year. D. astronomical unit.

LIVEWORKSHEETS

4. What is the equivalent of 423 kelvin in degrees Celsius?

A. $-223^\circ C$ B. $-23^\circ C$

C. $150^\circ C$ D. $696^\circ C$

5. To create real-time graphs of an object's displacement versus time and velocity versus time, a student would need to use a

A. motion sensor.

B. low-g accelerometer.

C. potential difference probe.

D. force probe.

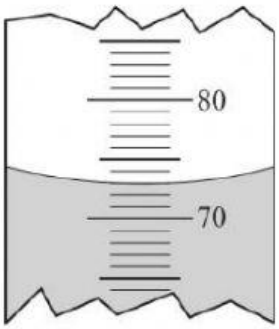
6. Which car has the fastest speed?

Distance Traveled by Four Different Cars

Car	Distance	Time
A	50 m	10 seconds
B	100 m	5 seconds
C	30 m	5 seconds
D	100 m	10 seconds

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

7. The drawing below shows part of a graduated cylinder containing liquid.



Based on the sensitivity of the graduated cylinder, what is the volume of the liquid?

A. 70.5 mL B. 73.0 mL

C. 76.7 mL D. 87.0 mL

LIVEWORKSHEETS

8. A teacher told four students to each measure the mass of a closed container of water. The students took turns measuring the mass. Their data are shown in the table below.

MASS OF CONTAINER

Student	Closed Container of Water (grams)
1	100
2	99
3	98
4	102

Which statement *best* explains why there are four different measurements?

A. The balance was new.

B. Each measurement was done at a different time.

C. Each student used a different process to find mass.

D. Movement caused the container to lose or gain mass.

9. The mass of a jar and lid with white marbles and black marbles is 1,500 grams. The mass of the marbles alone is $\frac{1}{2}$ the total mass of the jar, lid, and marbles.

Which statement *best* explains the difference between the mass of the jar with the marbles and the total mass of only the marbles?

A. The mass of the jar and lid is equal to the mass of the marbles alone.

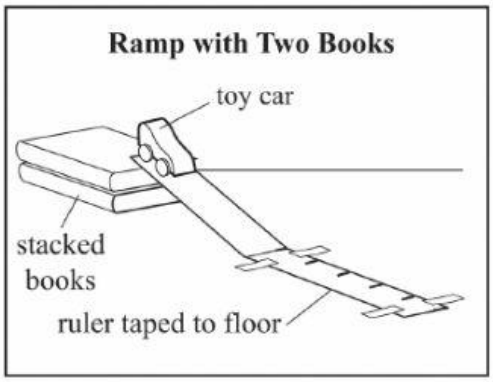
B. The mass of the jar and lid is equal to the mass of the white marbles.

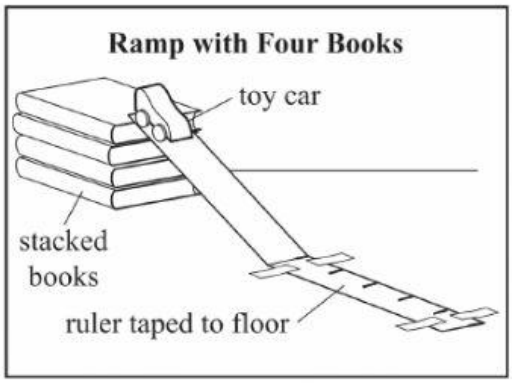
C. The mass of the white marbles is less than the mass of the black marbles.

D. The mass of the white marbles is more than the mass of the black marbles.

LIVEWORKSHEETS

10. Students want to know which ramp makes a toy car travel the greater distance on the floor. The students roll a toy car down each ramp one time.





They measure how far the toy car rolls on the floor. Which additional tests will produce results that can be *most* trusted?

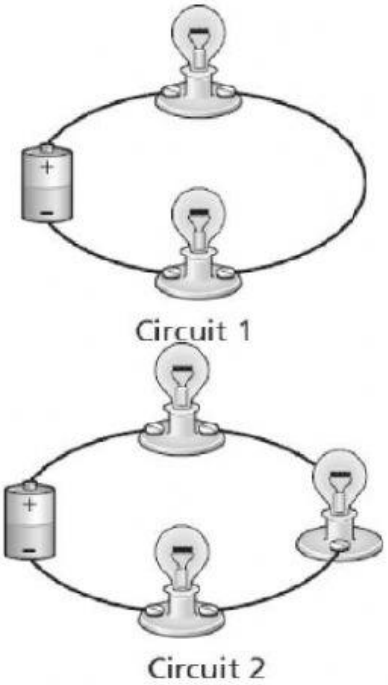
A. Roll the same toy car down each ramp two times.

B. Roll the same toy car down each ramp five times.

C. Roll five different toy cars down the ramp with two books, two times.

D. Roll five different toy cars down the ramp with two books, five times.

11. A student observed the circuits below and noticed the light bulbs in Circuit 1 were brighter than the light bulbs in Circuit 2.



Based on this observation, which of the following is the *best* prediction?

A. If more bulbs are added to a circuit, then the bulbs will become brighter.

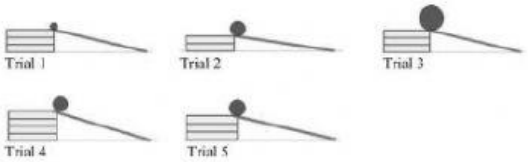
B. If more bulbs are added to a circuit, then the bulbs will become dimmer.

C. If longer wires are used in a circuit, then the bulbs will become brighter.

D. It longer wires are used in a circuit, then the bulbs will become dimmer.

LIVEWORKSHEETS

12. The diagrams below show five different tests Linda carried out using steel balls of three different sizes and masses. She used the same ramp for all trials.



Linda wants to test this idea: if the ramp is placed higher, the ball will travel to the bottom of the ramp faster. Which three trials should Linda compare to test this idea?

A. Trials 1, 2, and 3
B. Trials 1, 3, and 5
C. Trials 2, 3, and 4
D. Trials 2, 4, and 5

13. Which graphic representation would be the *best* way for Linda to display data from the three trials she tested?

A. histogram
B. line graph
C. double bar graph
D. stem and leaf plot

14. What is another question that Linda could test if she used the same materials as trials 1–5?

A. Do balls of different metals roll down the ramp faster?
B. Would increasing the friction on the ramp decrease the speed?
C. Would increasing the length of the ramp change the speed of the ball?
D. Does the size of the steel ball affect the time it takes to reach the bottom of the ramp?

15. After selecting the three trials to compare, Linda measured the time it took for the ball to travel to the end of the ramp. She repeated each trial 10 times and recorded her data.

What is the main reason Linda collected 10 measurements for each of the three trials?

A. to increase the reliability of her data
B. to list all the results in a table or graph
C. to change the experimental conditions
D. to check that the equipment is working

LIVEWORKSHEETS

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1.
Answer: B

2.
Answer: B

3.
Answer: C

4.
Answer: C

5.
Answer: A

6.
Answer: B

7.
Answer: B

8.
Answer: C

9.
Answer: A

10.
Answer: B

11.
Answer: B

12.
Answer: D

13.
Answer: B

14.
Answer: D

15.
Answer: A

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