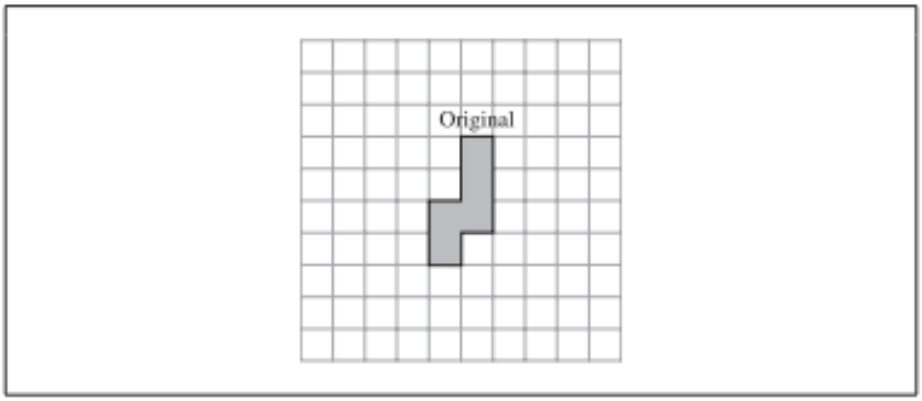
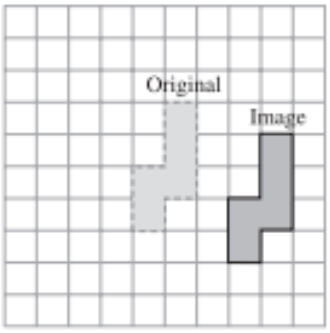
1.

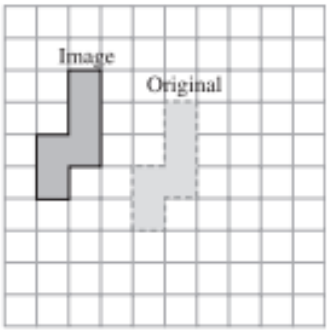


Which of the following diagrams represents the correct position of the polygon shown above after it has been translated 3 units to the left and 1 unit up?

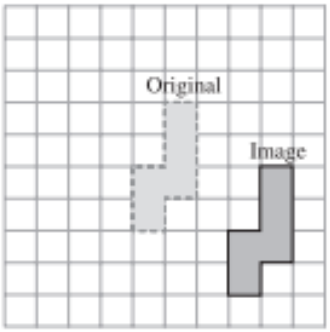
A.



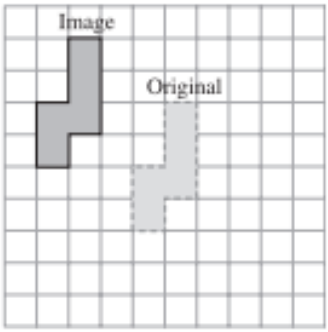
B.



C.



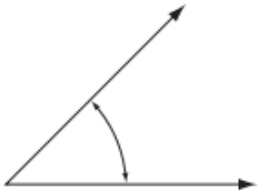
D.



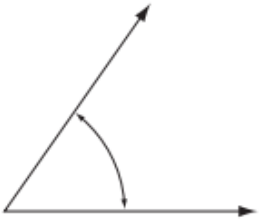
2.

Which of the following angles measures 75°?

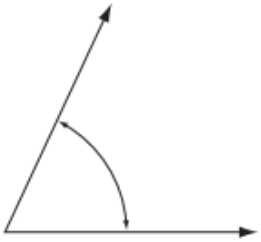
A.



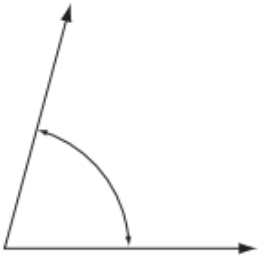
B.



C.

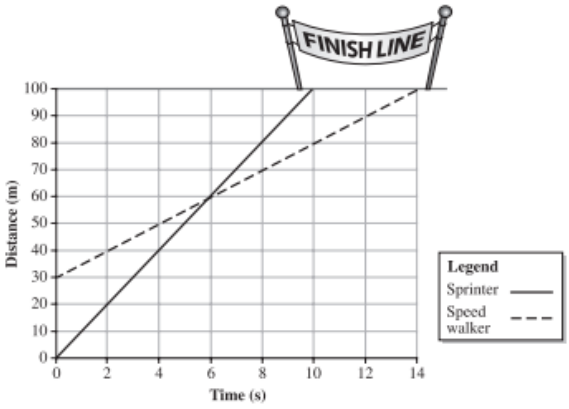


D.



3.

The results of a race between a sprinter and a speed walker are shown below. The speed walker starts 30 metres ahead of the sprinter.



Who won the race and by how many seconds?

A. The sprinter by 4 seconds

B. The speed walker by 4 seconds

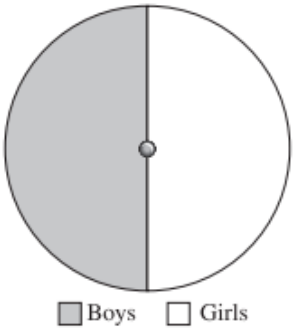
C. The sprinter by 20 seconds

D. The speed walker by 20 seconds

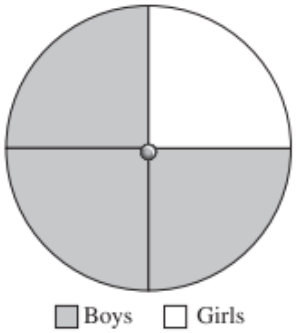
4.

Which of the following circles represents a ratio of 2 boys to 1 girl?

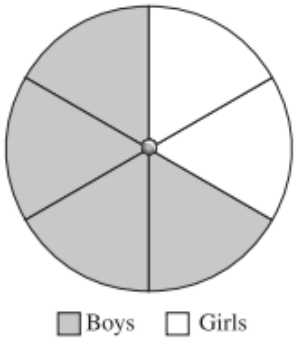
A.



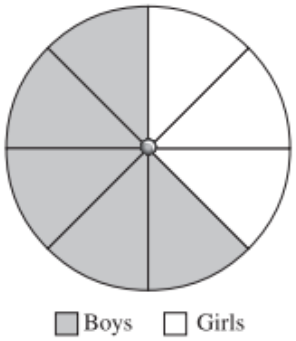
B.



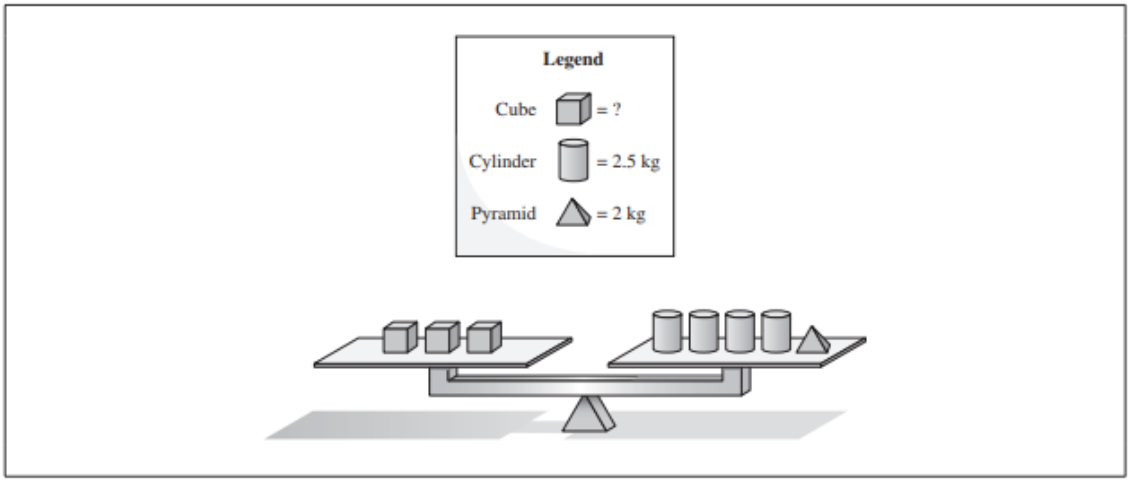
C.



D.



5.



What is the mass of one cube?

A. 2 kg
B. 3 kg
C. 4 kg
D. 5 kg

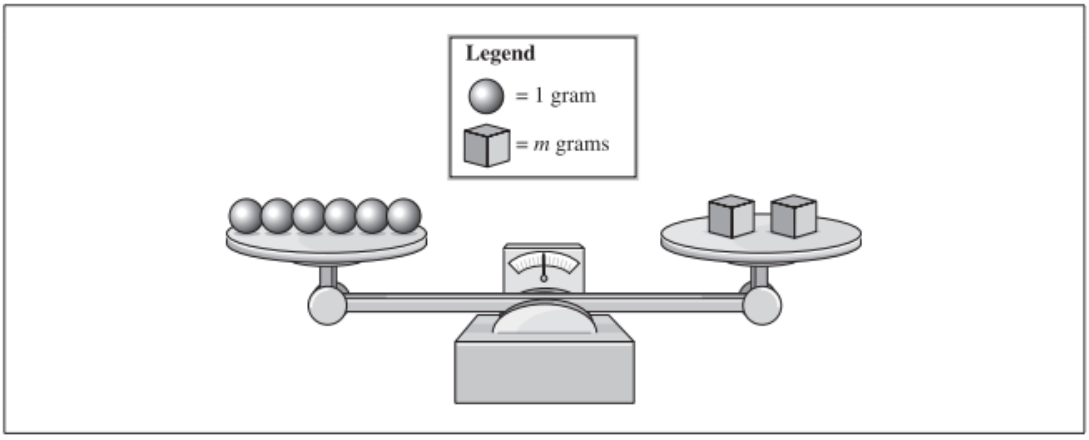
6.

Sam uses the digits from 3 to 9 to create a number with the largest possible value. All seven digits are used, and each digit is used only once.

What is the sum of the digits that are in the tens' place and in the ten thousands' place?

A. 10
B. 11
C. 12
D. 13

7.

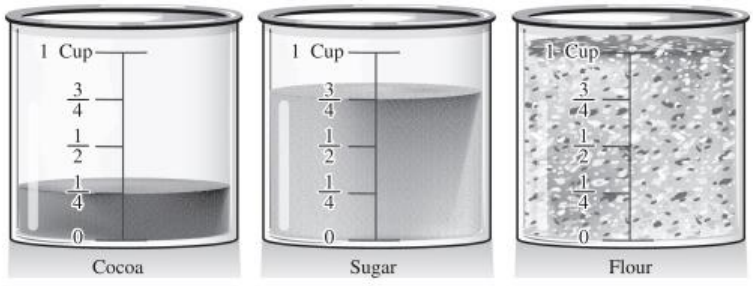


Which equation represents the balanced scale shown above?

A. $6 = 2 + m$
B. $6 = 2 \times m$
C. $6 = m \div 2$
D. $6 = m - 2$

8.

A baker pre-measures the following dry ingredients for a cake.



What is the ratio of cocoa to **all** of the dry ingredients?

A. 1:4
B. 4:1
C. 1:8
D. 8:1

9.

Which of the following tables of values could be produced by the equation $y = 3x - 2$?

A.

x	y
1	6
2	7
3	8
4	9

B.

x	y
1	0
2	1
3	2
4	3

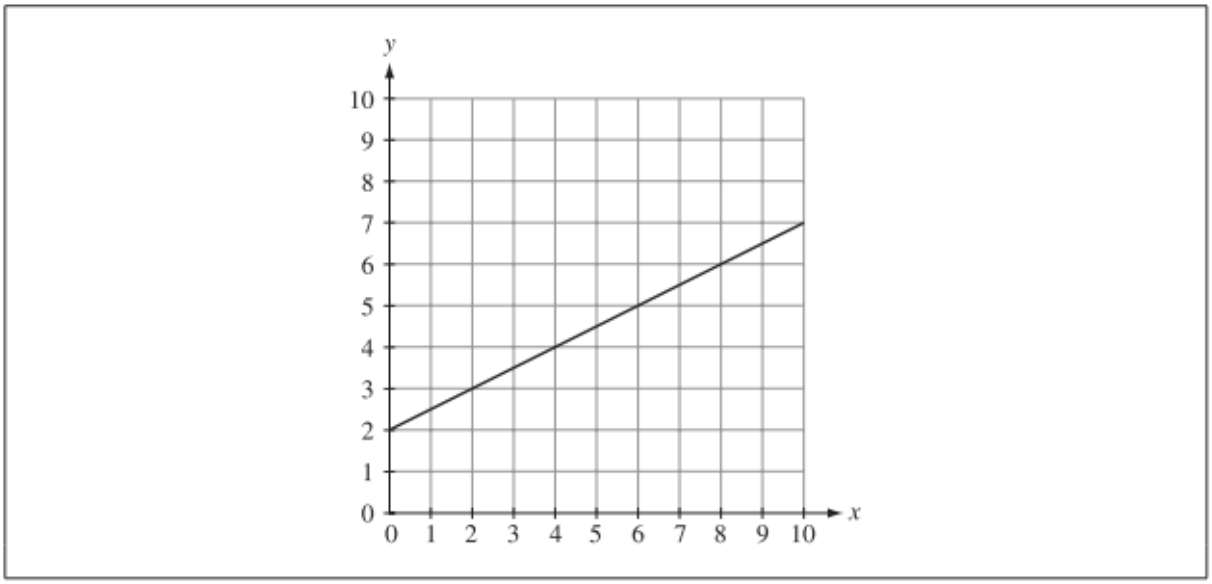
C.

x	y
1	1
2	4
3	7
4	10

D.

x	y
1	2
2	5
3	8
4	11

10.



Which of the following ordered pairs is located on the line in the graph shown above?

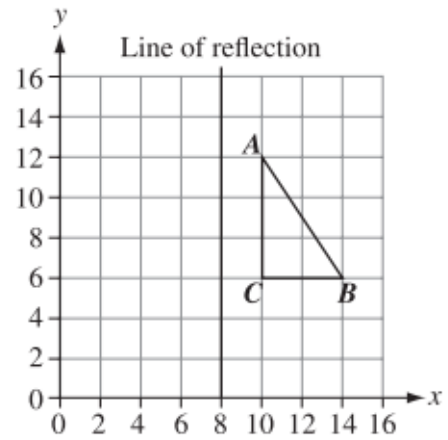
A. (2, 0)

B. (4, 5)

C. (5, 6)

D. (8, 6)

11.



What are the coordinates of B' after the triangle ABC is reflected across the line of reflection shown above?

A. (2, 6)

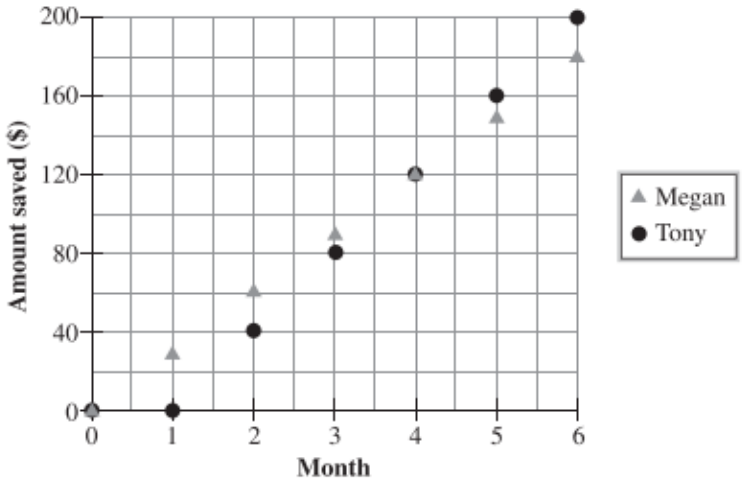
B. (6, 6)

C. (10, 6)

D. (14, 6)

12.

The graph below shows the total amount of money Megan and Tony each save over a period of time.



Which of the following statements about the graph shown above is correct?

A. Megan saves more money each month than Tony.

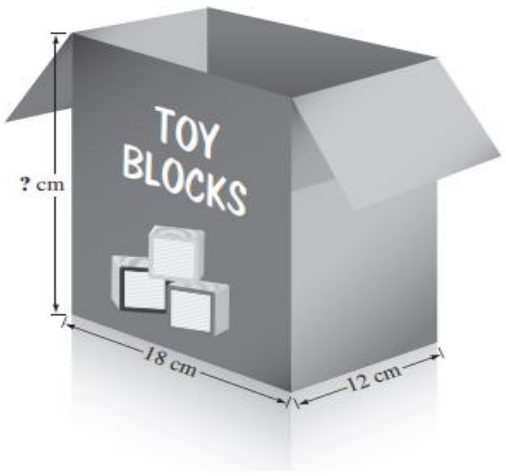
B. Tony saves more money than Megan by the fifth month.

C. Megan and Tony always have different amounts of money saved.

D. Tony and Megan save the same total amount of money in six months.

13.

A set of 24 toy blocks completely fills the box shown below. Each toy block is a cube and has a side length of 6 cm.

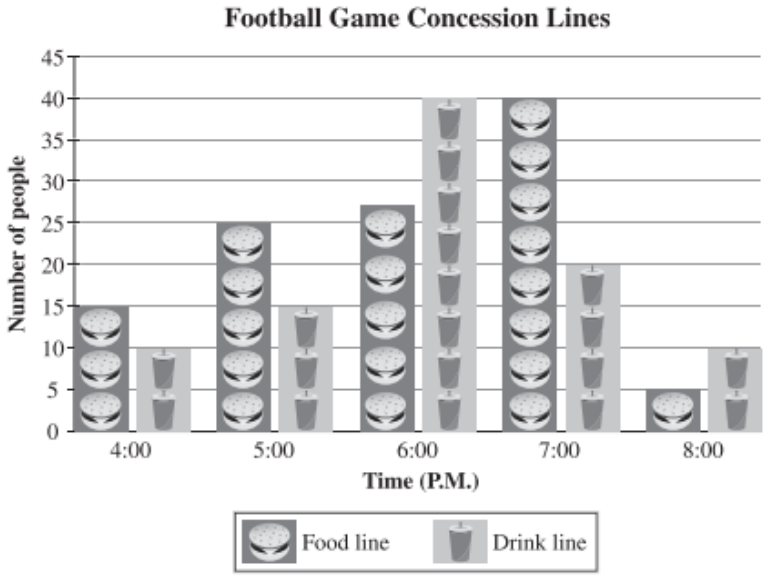


What is the height of the box?

A. 18 cm
B. 24 cm
C. 30 cm
D. 36 cm

14.

The graph shown below shows the number of people waiting in line at two concession stands during an evening football game.

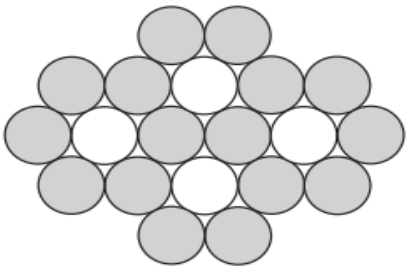


At what time were there twice as many people waiting in the food line as there were waiting in the drink line?

A. 5:00 P.M.
B. 6:00 P.M.
C. 7:00 P.M.
D. 8:00 P.M.

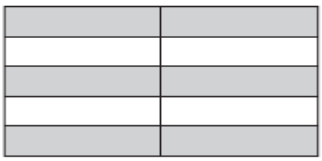
15.

Ali used white circles and grey circles to create a design.



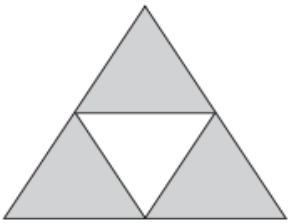
Which of the following designs has the same ratio of white shapes to grey shapes as Ali's design?

A.

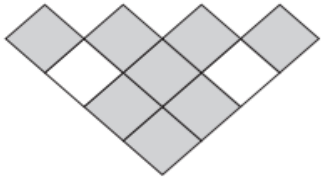


B.

C.

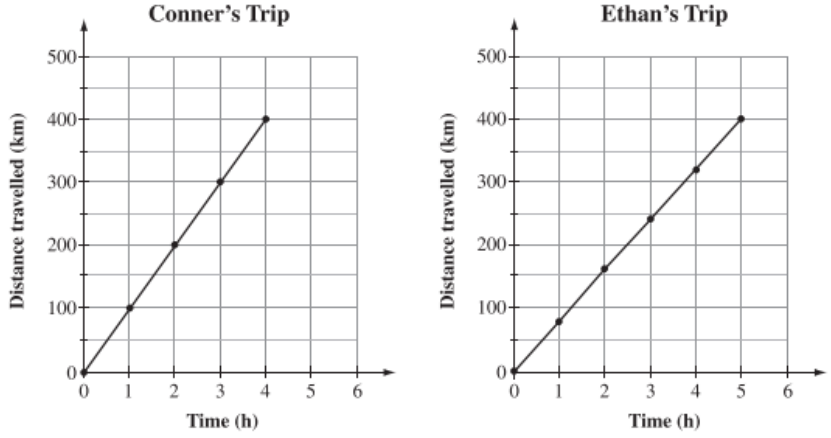


D.



16.

Conner and Ethan each make a graph to represent the distance travelled to get to a campground.



After 2 hours, who was closer to the campground and by how many kilometres?

A. Conner was closer by 40 km.

B. Ethan was closer by 40 km.

C. Conner was closer by 60 km.

D. Ethan was closer by 60 km.

17.

An incomplete math equation is shown below.

$$24 \square (6 + 2 \times 3) \bigcirc 10 = 12$$

Which of the following rows identifies the operation symbols that accurately complete the equation above?

Row	□	○
A.	–	+
B.	–	÷
C.	÷	+
D.	÷	–

18.

Eric uses a pattern of circles and squares to create four designs. The number of circles and the number of squares used in the four designs are shown in the table below.

Design	Number of Circles (x)	Number of Squares (y)
1	2	5
2	3	6
3	6	9
4	8	11

Which of the following equations represents the relationship between the number of circles (x) and the number of squares (y) in the table above?

A. $y = x + 3$

B. $y = 2x + 1$

C. $y = 3x - 1$

D. $y = 2x - 3$

19.

At a grocery store, Tara bought 3 apples for $0.45 each, 2 bagels for $0.70 each, and a bottle of juice for $1.85. Monica bought 2 oranges for $0.55 each, a muffin for $1.25, and 2 packages of chewing gum for $0.85 each.

In total, how much did the girls spend at the grocery store?

A. $4.60

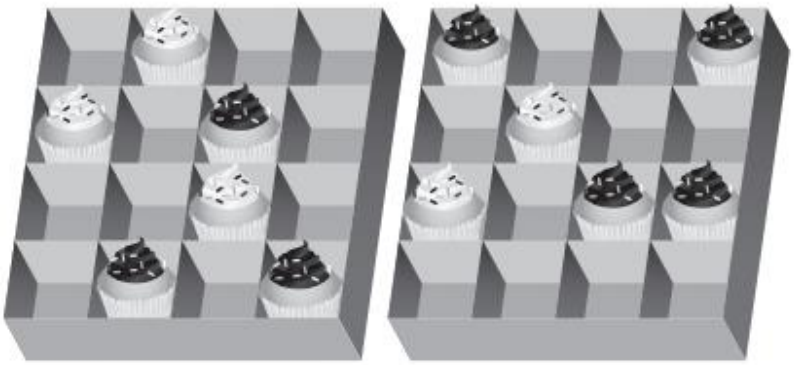
B. $5.65

C. $7.25

D. $8.65

20.

Billie arrived at school with two full trays of cupcakes to give to her class. At the end of the day, the two trays were partially full, as shown in the diagram below.



Based on the information above, the variable x in the equation $x + 12 = 32$ represents the

A. total number of cupcakes brought to school

B. number of cupcakes in each tray

C. cupcakes that were given away

D. cupcakes that are left over

21.

During a probability experiment, Sanjeet tosses a coin 10 times and it lands heads-side up 2 times.

How could Sanjeet change the experiment so that the probability of the coin landing heads-side up is closer to 0.5?

A. Flip a larger coin.

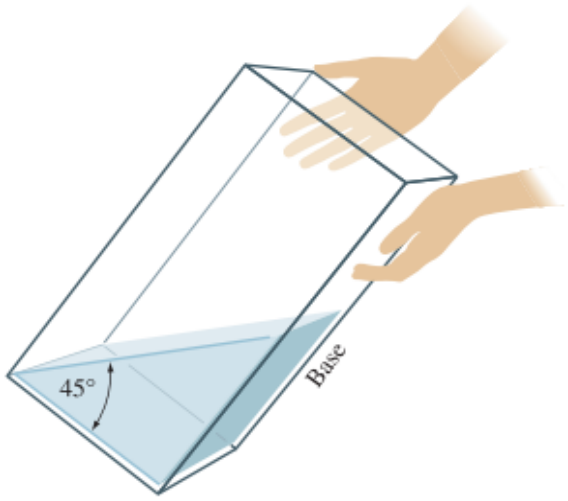
B. Switch hands after each coin toss.

C. Increase the number of coin tosses.

D. Use a different coin for each coin toss.

22.

The fish tank shown below is a right rectangular prism. The tank is tilted so that water reaches halfway up the base.



What percentage of the tank is occupied by water?

A. 20%

B. 25%

C. 33%

D. 50%

23.

Candace earns $5.75 an hour for babysitting and $6.40 an hour for doing yardwork. Candace saves the money she earns from 8 hours of babysitting and 3 hours of yardwork.

How much **more** money does Candace need to save to buy a camera that costs $119.80?

A. $51.35

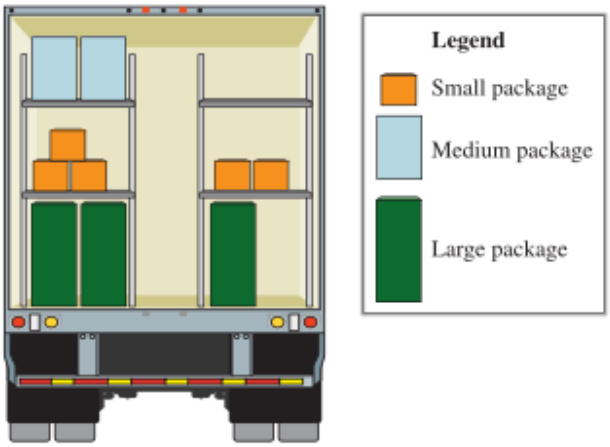
B. $54.60

C. $65.20

D. $68.45

24.

A total of 10 packages are arranged in the back of a cargo truck as shown in the diagram below. One large package has the same mass as two medium packages. One medium package has the same mass as three small packages.



How many small packages need to be loaded onto the right side of the truck to balance the load?

A. 8

B. 9

C. 12

D. 13

25.

Jenny's mom has 10 oranges to slice for Jenny's soccer team. Each orange will be sliced into 8 pieces of the same size. Jenny counts 66 pieces that have already been sliced.

The remaining pieces will be made out of

A. 1 orange

B. $1\frac{1}{4}$ oranges

C. $1\frac{1}{2}$ oranges

D. $1\frac{3}{4}$ oranges

26.

There are m boys and n girls on a soccer team. Each person carries 2 soccer balls.

Which of the following expressions could be used to represent the total number of soccer balls that are carried by all members of the soccer team?

A. $2 \times (m + n)$

B. $2 + (m + n)$

C. $m + 2n$

D. $2m + n$

27.

Johann uses a 20-sided die to demonstrate theoretical probability. The sides of the die are numbered from 1 to 20. He calculates the theoretical probability of a particular outcome to be $\frac{5}{20}$.

For which of the following outcomes could Johann have calculated the theoretical probability?

A. A multiple of 3 is rolled.

B. A multiple of 4 is rolled.

C. An odd number is rolled.

D. An even number is rolled.

28.

An object and its two images created by two separate transformations are shown below.

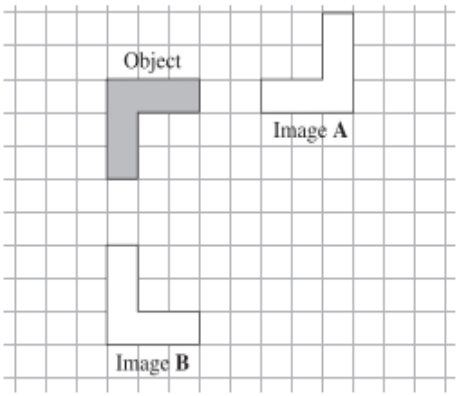


Image A is a ___***i***___ *of the object and Image B is a* ___***ii***___ *of the object.*

The statement above is completed by the information in row

Row	***i***	***ii***
A.	rotation	rotation
B.	rotation	reflection
C.	reflection	rotation
D.	reflection	reflection

ANSWER KEY

Number **(N)**
Patterns and Relations **(PR)**
Shape and Space **(SS)**
Statistics and Probability **(SP)**

1. (SS) → B
2. (SS) → D
3. (SP) → A
4. (N) → C
5. (PR) → C
6. (N) → B
7. (PR) → B
8. (N) → C
9. (PR) → C
10. (SS) → D
11. (SS) → A
12. (PR) → B
13. (SS) → B
14. (SP) → C
15. (N) → D
16. (SP) → A
17. (N) → C
18. (PR) → 3
19. (N) → D
20. (PR) → C
21. (SP) → C
22. (N) → B
23. (N) → B
24. (PR) → D
25. (N) → D
26. (PR) → A
27. (SP) → B
28. (SS) → B