

# **Grade 6 Mathematics Part B Online Practice Test - 2000**

**(Adapted from the 2000 Grade 6 Mathematics Achievement Test)**

## Grade 6 Mathematics Part B Online Practice Test - 2000 (Adapted from the 2000 Grade 6 Mathematics Achievement Test)

This test has one section containing 50 multiple-choice questions, each with a value of one mark

**This test is designed to be completed in 60 minutes; however, you may have an additional 30 minutes to complete the test, if you need it.**

### *Instructions*

- Read each question carefully.
- You may use manipulatives, including calculators, when answering the questions, but they are not necessary.
- Try to answer all the questions. If you cannot answer a question, go on to the next one. Click on the "Score Test!" button on the last page to get your score.

### *Multiple Choice*

- Each question has four possible answers from which you are to choose the **correct** or **best** answer.
- Locate the circle next to the letter that corresponds to your choice and click on it with your mouse's left button. The circle will fill in. In order to change your answer, click on a different circle. Try the example below.

### *Example*

This examination is for the subject of

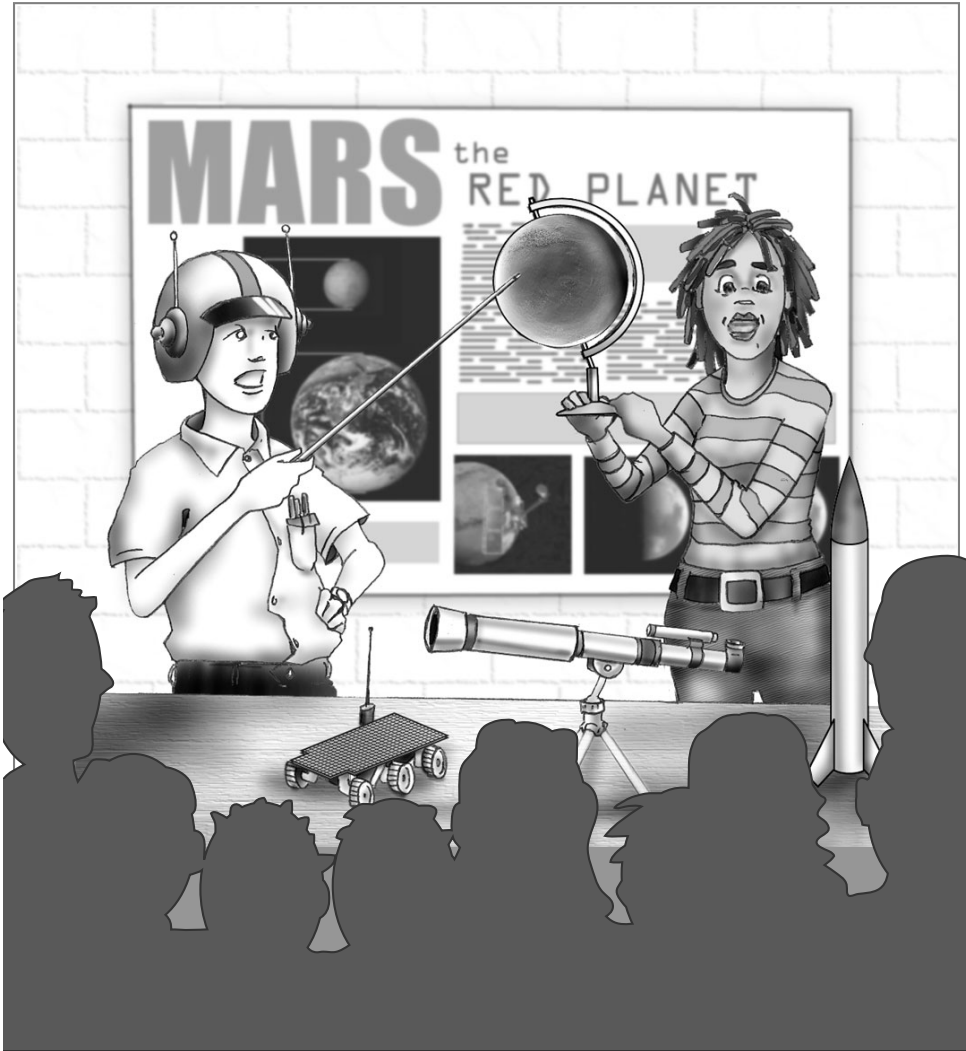
- A.** mathematics
- B.** science
- C.** language arts
- D.** social studies

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# SCIENCE FAIR



Claude and Alex are presenting a project at a Regional Science Fair.

Use the following information to answer question 1.

At this year's science fair, 35 projects will be displayed. Claude and Alex have a chart showing the number of projects presented on each topic.

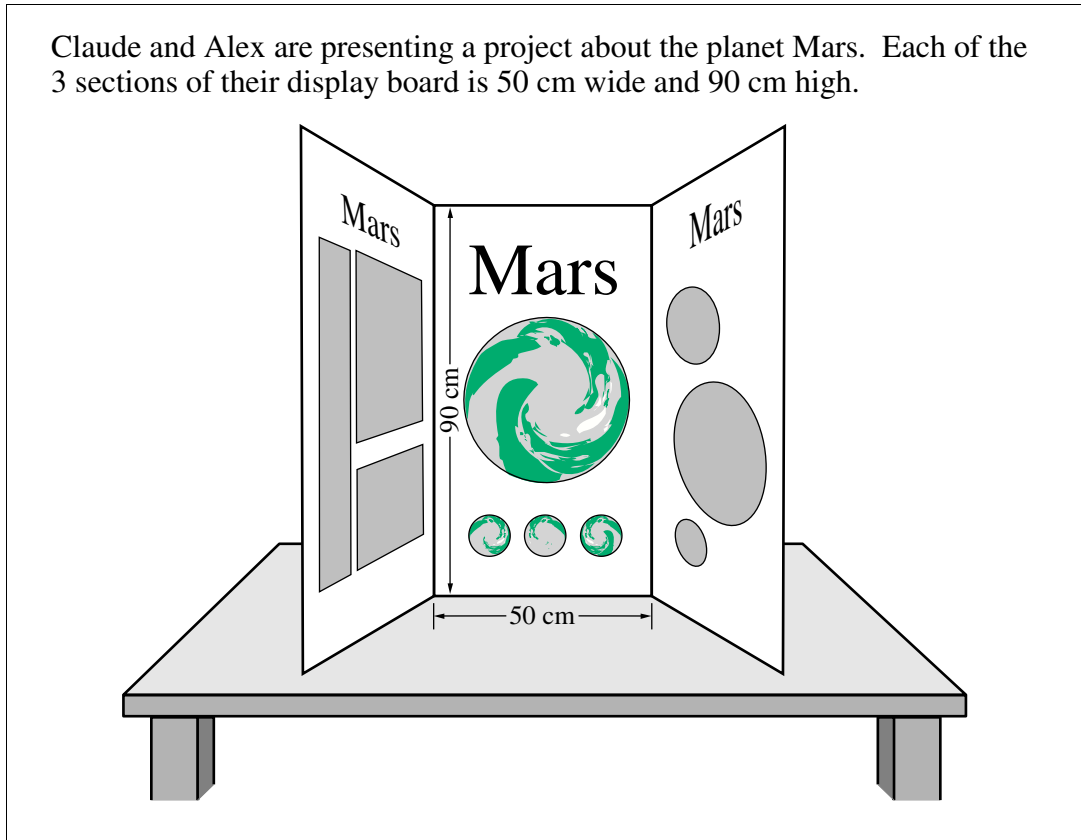
**Science Topics and Number of Projects**

<b>Topic</b>	<b>Number of Projects</b>
Air and Aerodynamics	9
Flight	7
Sky Science	8
Trees and Forests	6
Evidence and Investigations	5

1. What is the ratio of the number of "Evidence and Investigations" projects to the total number of projects?
  - A. 7:1
  - B. 6:1
  - C. 1:7
  - D. 1:6

Use the following information to answer questions 2 and 3.

Claude and Alex are presenting a project about the planet Mars. Each of the 3 sections of their display board is 50 cm wide and 90 cm high.

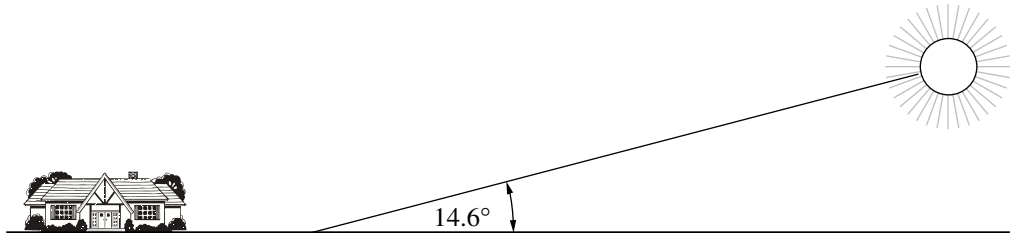


2. The total perimeter of the display board is
  - A. 180 cm
  - B. 280 cm
  - C. 300 cm
  - D. 480 cm
  
3. The total area of the 3 sections of the display board is
  - A. 15 500 cm<sup>2</sup>
  - B. 13 500 cm<sup>2</sup>
  - C. 4 500 cm<sup>2</sup>
  - D. 1 500 cm<sup>2</sup>

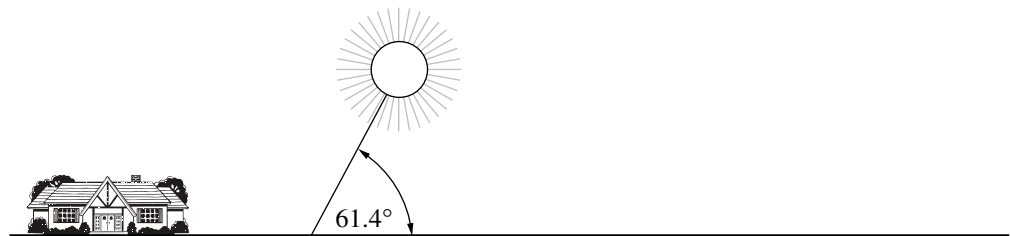
Use the following information to answer question 4.

Alex looks at a display illustrating the angle of the sun above the horizon in winter and summer.

**Maximum Angle of Sun in Winter (December)  
Red Deer, AB**



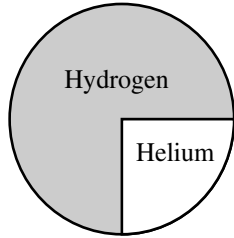
**Maximum Angle of Sun in Summer (June)  
Red Deer, AB**



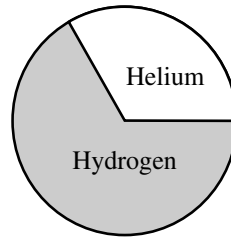
4. The difference between the maximum angle of the sun in the summer and the maximum angle of the sun in the winter is
- A.  $76.0^\circ$
  - B.  $74.0^\circ$
  - C.  $53.2^\circ$
  - D.  $46.8^\circ$

5. At another display, Alex reads that the sun is made up of approximately 75% hydrogen and 25% helium. The pie chart that illustrates this information is

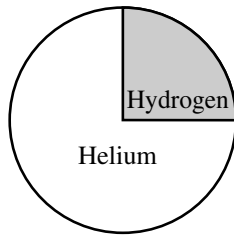
A.



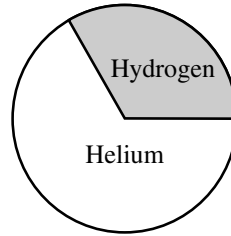
B.



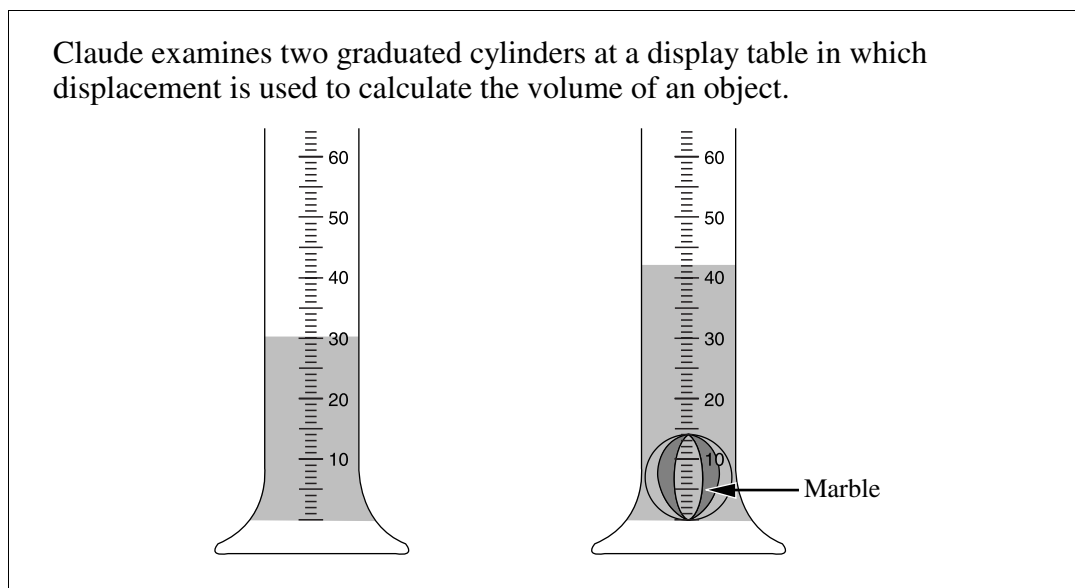
C.



D.



Use the following information to answer question 6.






6. The volume of water that is displaced by the marble is

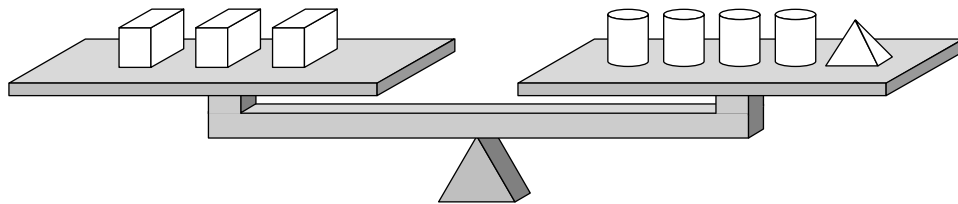
- A. 12 mL
- B. 14 mL
- C. 28 mL
- D. 42 mL



Use the following information to answer question 7.

At another display, people had to calculate the mass of a rectangular prism. The display consisted of the following poster and apparatus.

Legend	
Rectangular prism	 = ?
Cylinder	 = 1.25 kg
Pyramid	 = 1.00 kg

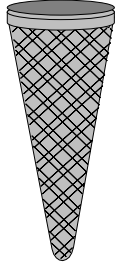





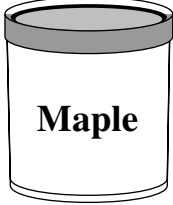



7. What is the mass of the rectangular prism?

- A. 2 kg
- B. 3 kg
- C. 5 kg
- D. 6 kg

Use the following information to answer question 8.

At the Regional Science Fair, a concession sells Frozen Treats for 99¢ each.

Frozen Treats		
Cones	Ice Cream Flavours	Toppings
<p>Sugar cone</p> 	 <p><b>Vanilla</b></p>	 <p>Chocolate sprinkles</p>
<p>Plain cone</p> 	 <p><b>Chocolate</b></p>	 <p>Nuts</p>
	 <p><b>Maple</b></p>	 <p>Candy sprinkles</p>

8. If a Frozen Treat is made up of 1 cone, 1 scoop of ice cream, and 1 topping, how many different Frozen Treats are possible?
- A. 8
  - B. 12
  - C. 16
  - D. 18

Use the following information to answer question 9.


Claude and Alex made a tally chart of all the students who viewed their display.

**Students Viewing the Mars Display**

<b>Grade</b>	<b>Girls</b>	<b>Boys</b>
1		
2		
3		
4		
5		
6		

9. According to the information in the tally chart,
- A. more boys than girls viewed the display
  - B. more Grade 3 boys than Grade 2 girls viewed the display
  - C. the greatest number of students from a particular grade who viewed the display were from Grade 1
  - D. the greatest number of students from a particular grade who viewed the display were from Grade 4

## Prize Pig



One day, Sally, James, and their parents returned to their farm to find that their prize pig was missing. The gate was open, and he was not in his pen. The following questions are about the children and their pig.

*Use the following information to answer question 10.*

James and Sally's father asked some neighbours to help search for the prize pig. The following chart lists the number of people that were searching each hour of the search.

Hour of search	1	2	3	4	5
Number of people	2	5	11	23	

10. If the pattern above continues, how many people would be searching during hour 5?
- A. 32 people
  - B. 35 people
  - C. 41 people
  - D. 47 people

Use the following information to answer question 11.

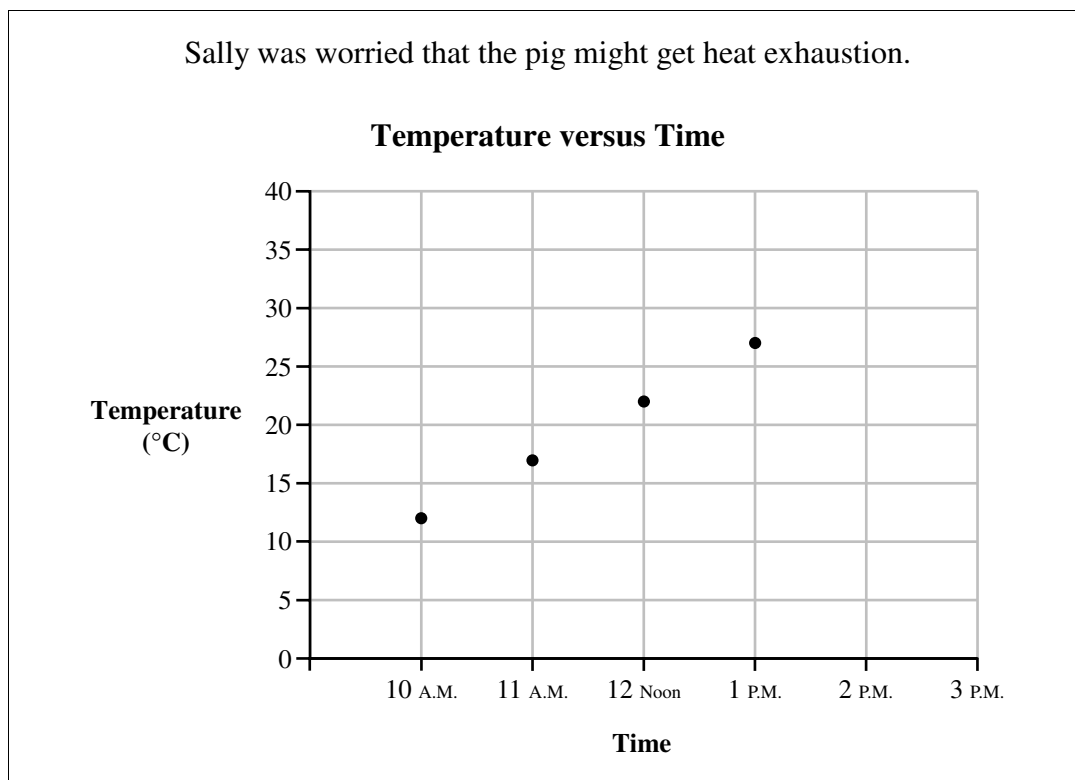
Sally always whistled to the pig when she cleaned its pen, and it would “oink.” While she searched for the pig, Sally whistled, hoping that she would hear the pig oink in reply. She whistled this repeating tune.



11. The next notes in the sequence above will be

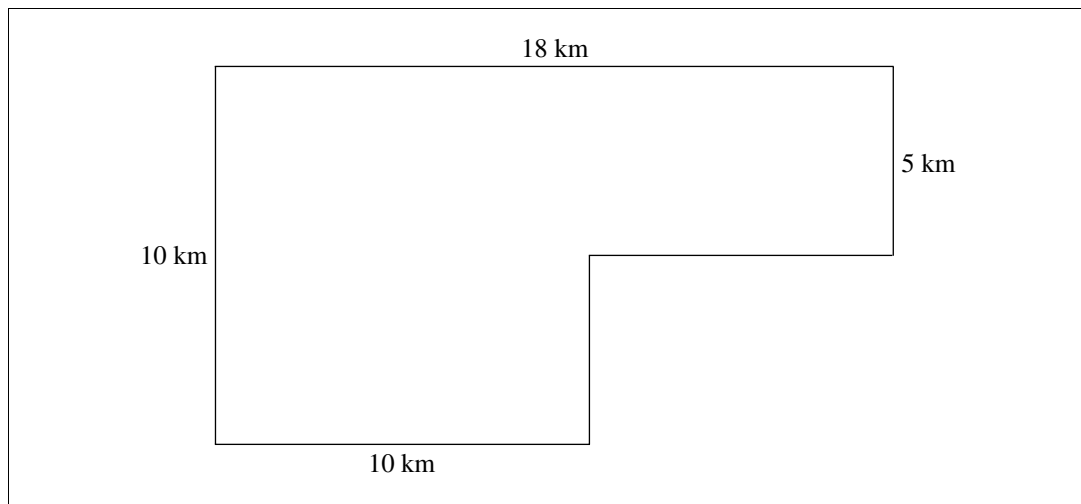


Use the following graph to answer question 12.



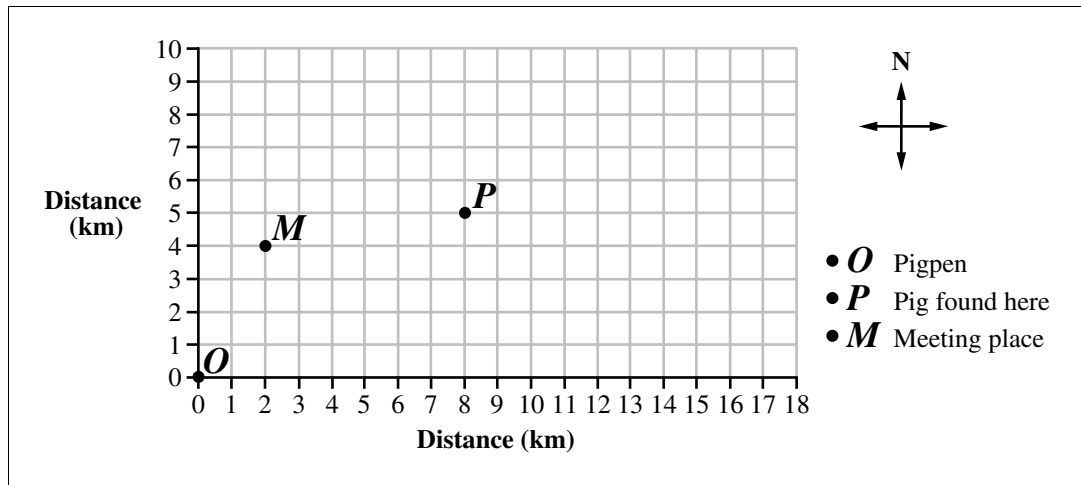
12. Sally thought that the pig should be in the shade if the temperature reached  $32^{\circ}\text{C}$ . If the temperature continues to rise at the rate shown above, at what time will the temperature reach  $32^{\circ}\text{C}$ ?
- A. 1:00 P.M.
  - B. 1:30 P.M.
  - C. 2:00 P.M.
  - D. 2:30 P.M.

Use the following perimeter diagram to answer question 13.



13. Sally and her dad drove around the fields of some neighbouring farms to see if they could find the pig. The diagram above shows the path they drove. In total, they drove
- A. 55 km
  - B. 56 km
  - C. 140 km
  - D. 180 km

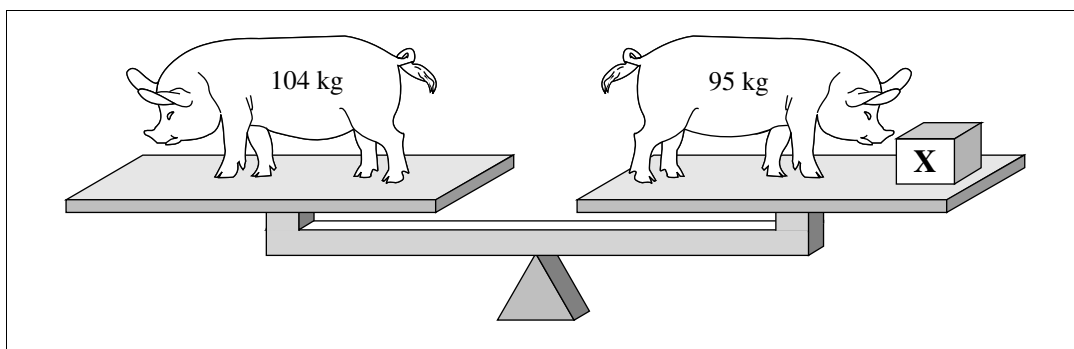
Use the following graph to answer questions 14 and 15.



14. One of the neighbours found the pig! Which of the following ordered pairs represents the place where the pig was found?
- A. (8, 5)
  - B. (4, 2)
  - C. (2, 4)
  - D. (5, 8)
15. The neighbour met Sally and her dad at the point labelled *M* on the graph. They were happy and relieved to see the pig! From the point labelled *P*, the neighbour who found the pig had travelled
- A. 6 km W and 1 km S
  - B. 6 km E and 1 km N
  - C. 6 km E and 1 km S
  - D. 6 km W and 1 km N



Use the following information to answer question 16.



16. The pig had a mass of 104 kg before it disappeared. The pig had a mass of 95 kg when it was returned to the farm. In the diagram above, **X** represents the mass that the pig lost during its disappearance. What is the value of **X**?

- A. 199 kg
  - B. 191 kg
  - C. 19 kg
  - D. 9 kg
- 

17. James and Sally's father buys materials to repair the pigpen. The supplies cost him a total of \$217.87, which he spent at three stores. He spent \$63.74 at one store and \$93.38 at another store. Approximately how much money did he spend at the third store?

- A. \$40.00
- B. \$60.00
- C. \$100.00
- D. \$150.00

Use the following chart to answer question 18.

The following chart shows the mass of food scraps and how much water James and Sally give the pig each day.

Feeding Times Each Day	Food Scraps	Water
7 A.M.	1 kg	2 L
11 A.M.	0.5 kg	1 L
4 P.M.	0.5 kg	2 L

18. The ratio of total food scraps to total water each day is
- A. 2:5
  - B. 1:4
  - C. 5:2
  - D. 1:2

Use the following stem-and-leaf plot to answer question 19.

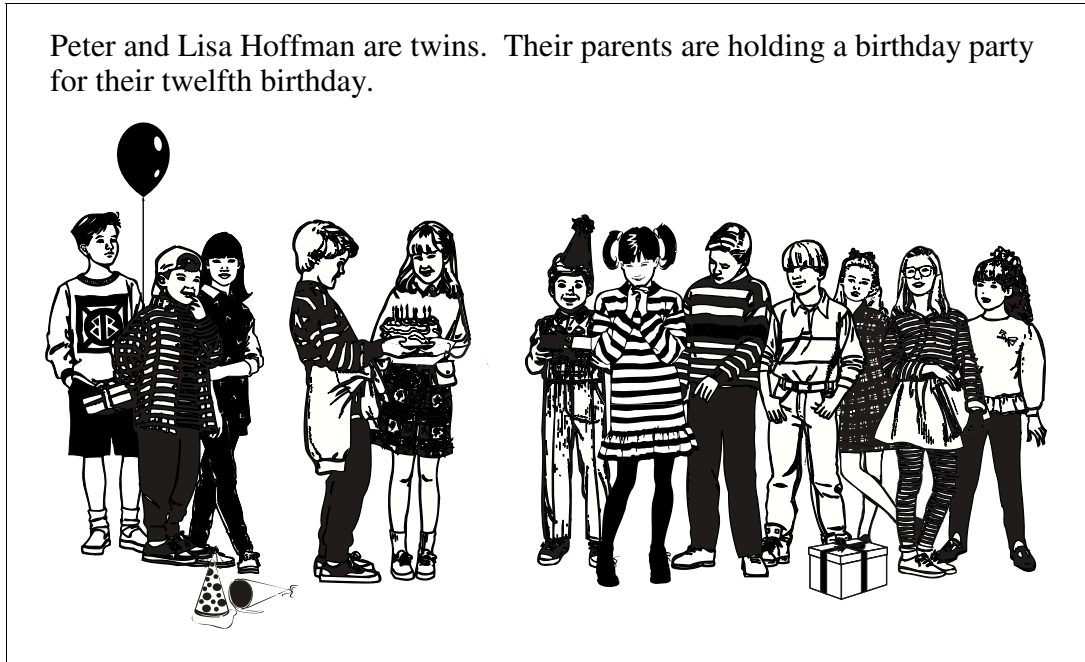
Range of Market Prices for Hogs (\$/kg)	
\$1.9	3 3 4 5
\$1.8	0 1 2 2 3 4 7
\$1.7	3 5 6 6 7 7 7 8 9
\$1.6	2 4 7 7 8 9
\$1.5	8 9 9

19. The difference between the highest market price for hogs and the lowest market price for hogs is
- A. \$3.53
  - B. \$3.51
  - C. \$0.37
  - D. \$0.35

20. The family sells the prize pig when it once again has a mass of 104 kg. How much money will they receive if hogs are selling for \$1.79/kg?
- A. \$58.10
  - B. \$105.79
  - C. \$179.00
  - D. \$186.16

## Birthday Party

Peter and Lisa Hoffman are twins. Their parents are holding a birthday party for their twelfth birthday.



21. The twins invite 10 guests to their party, and they estimate that each person will eat 75 g of potato chips. If a box of potato chips holds 200 g, what is the fewest number of boxes that they will need to buy for all 12 people?
- A. 4 boxes
  - B. 5 boxes
  - C. 6 boxes
  - D. 12 boxes

Use the following information to answer question 22.

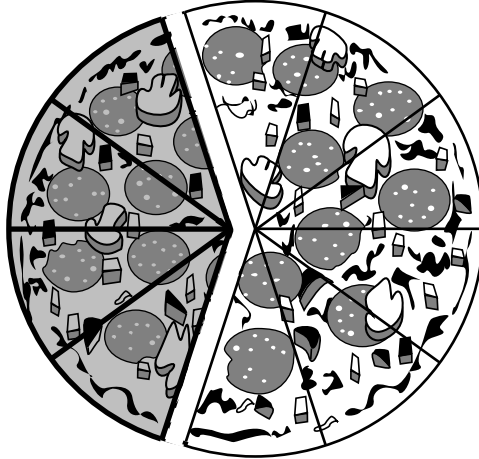
The twins are making juice for the party. It takes 1 can of concentrate and 3 cans of water to make 1 jug of juice.

<b>Making Juice</b>		
<b>Cans of Concentrate</b>	<b>Cans of Water</b>	<b>Jugs of Juice</b>
1	3	1
2	6	2
•	•	•
•	•	•
•	•	•
•	•	•

22. If the twins use 6 cans of concentrate, how many cans of water will they need and how many jugs of juice will they make?
- A. 6 cans of water and 18 jugs of juice
  - B. 7 cans of water and 21 jugs of juice
  - C. 18 cans of water and 6 jugs of juice
  - D. 21 cans of water and 7 jugs of juice

Use the following information to answer question 23.

Mrs. Hoffman orders pizzas for the party. Each pizza is cut into 10 pieces. The portion shaded on the diagram below shows the number of pieces that Mrs. Hoffman estimates that each person would eat on average.



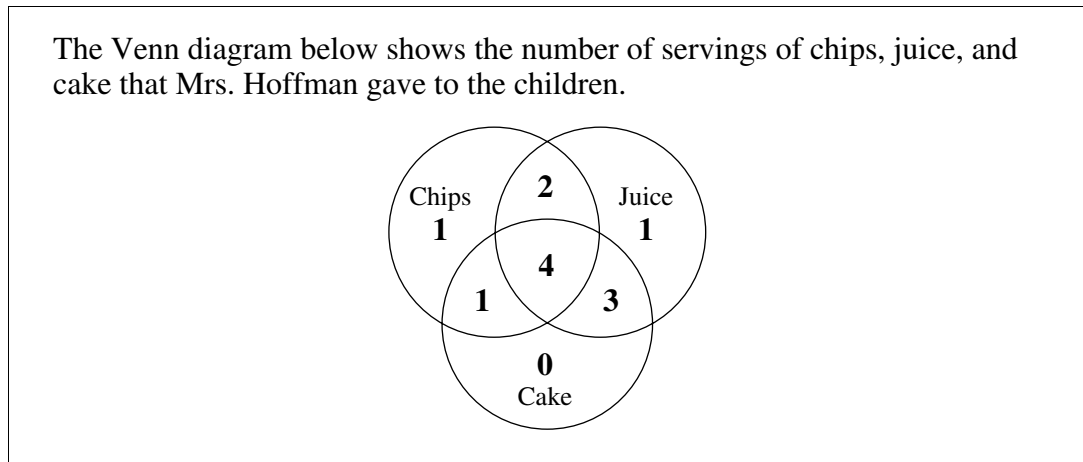
23. What fraction of a pizza did Mrs. Hoffman estimate that each person would eat?

- A.  $\frac{1}{4}$
  - B.  $\frac{1}{5}$
  - C.  $\frac{2}{5}$
  - D.  $\frac{1}{10}$
- 

24. Lisa eats  $\frac{3}{5}$  of a pizza. This is equivalent to

- A. 3%
- B. 6%
- C. 30%
- D. 60%

Use the following diagram to answer question 25.



25. The Venn diagram above shows that the number of children who took juice was
- A. 12
  - B. 10
  - C. 9
  - D. 1

---

Use the following information to answer question 26.

Jose, Andrew, Mary, and Natalie combined their money to buy the twins a present.

- Jose contributed \$11.50.
- Andrew contributed  $\frac{1}{2}$  as much as Jose.
- Mary contributed \$4.50 more than Andrew.
- Natalie contributed \$0.75 less than Jose.

26. How much money did they have altogether to spend on the present?
- A. \$36.75
  - B. \$37.25
  - C. \$38.25
  - D. \$38.75

27. Mr. Hoffman put money in 12 plastic eggs and placed them in a bag. One of the eggs contains a \$2 coin. Each child is allowed to choose one egg. If Ivan chooses first, then the probability that he will choose the plastic egg with the \$2 coin in it is
- A. 1 out of 2
  - B. 1 out of 10
  - C. 1 out of 11
  - D. 1 out of 12

*Use the following information to answer question 28.*

The amount of money that four children found in their eggs totalled \$4.65. The chart below shows how much money each child found.

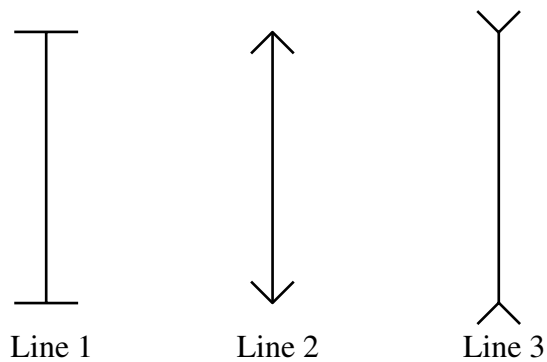
<b>Name</b>	<b>1¢</b>	<b>5¢</b>	<b>10¢</b>	<b>25¢</b>	<b>\$1</b>
Philip	?	?	?	?	?
Susan	14	4	1	3	0
Jacob	21	0	2	1	0
Beth	5	0	3	0	1

28. How much money did Philip find in his plastic egg?
- A. \$1.45
  - B. \$1.75
  - C. \$2.80
  - D. \$3.20



Use the following information to answer question 29.

Peter and Lisa opened their presents. One of Lisa's presents was a book of optical illusions. The following optical illusion was shown.

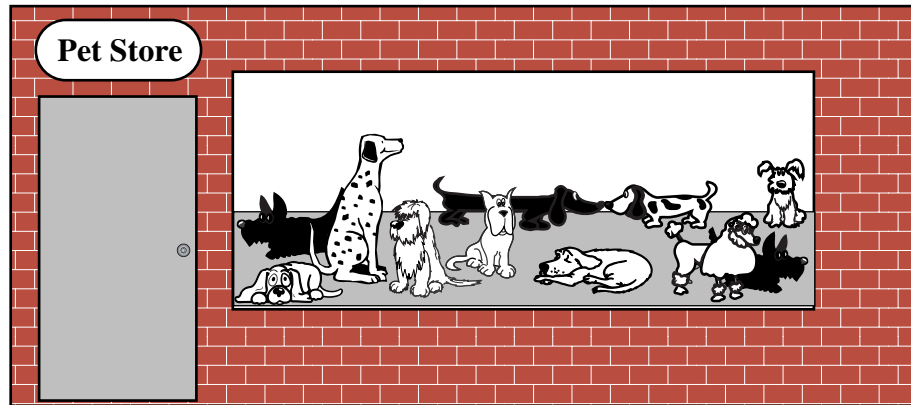


29. Lisa recognized that
- A. line 3 is the longest
  - B. line 1 is longer than line 2
  - C. line 2 is shorter than line 3
  - D. lines 1, 2, and 3 are the same length

## Buying a Dog

Zach and Kristen saved their allowance to buy a dog. Their parents take them to a pet store to buy the dog. The next eight questions are about Zach, Kristen, and their dog.

*Use the following information to answer question 30.*

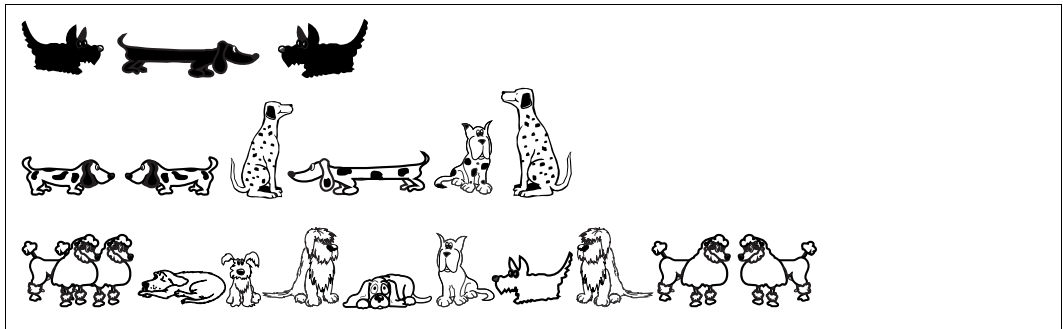


In the pet store window, there are 3 all-black, 6 all-white, and 2 spotted dogs.

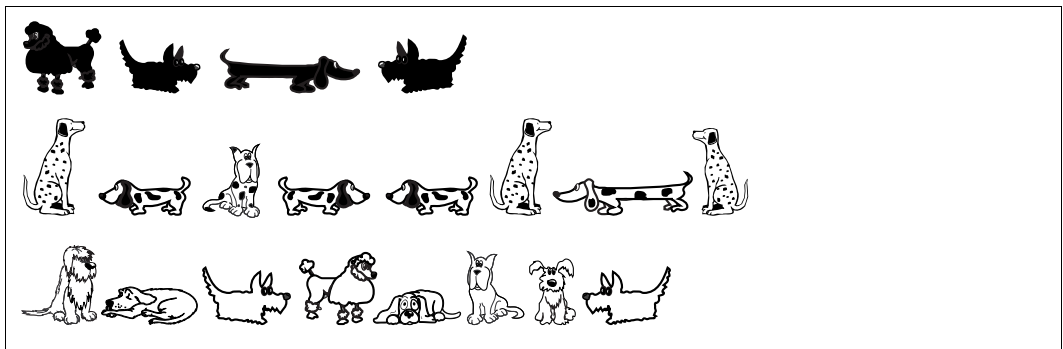
30. The ratio of all-black dogs to all-white dogs, in simplest form, is
- A. 1:2
  - B. 1:3
  - C. 3:8
  - D. 3:11

31. There are 20 dogs. Which of the following pictures shows that 30% of the dogs are all-black?

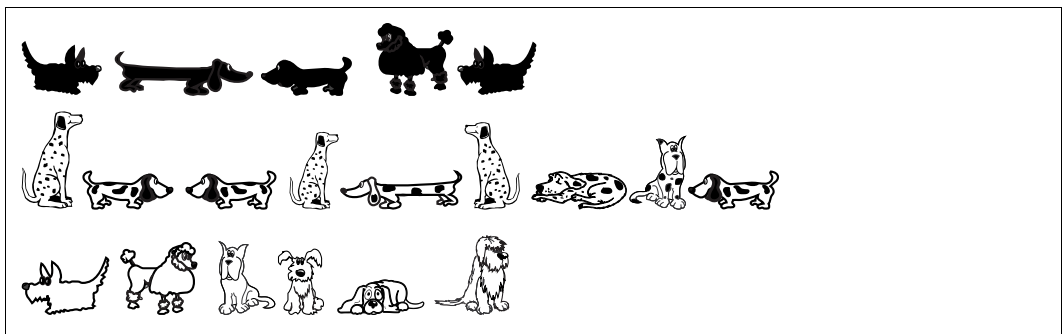
A.



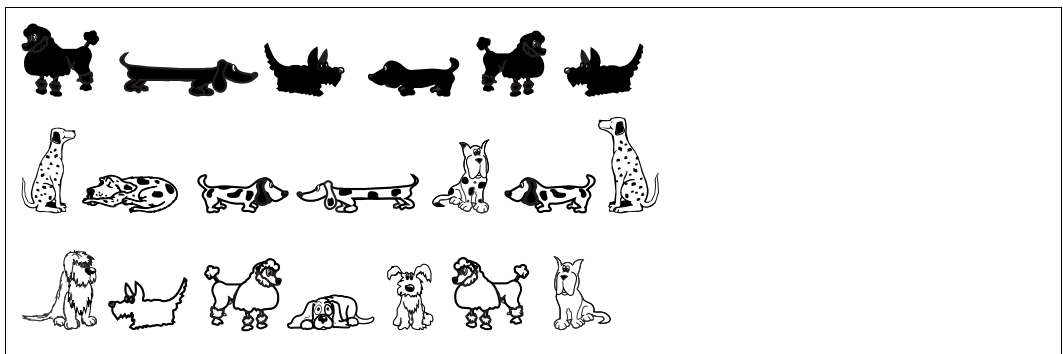
B.



C.



D.



Use the following information to answer question 32.

The pet store sells several brands of dog food.

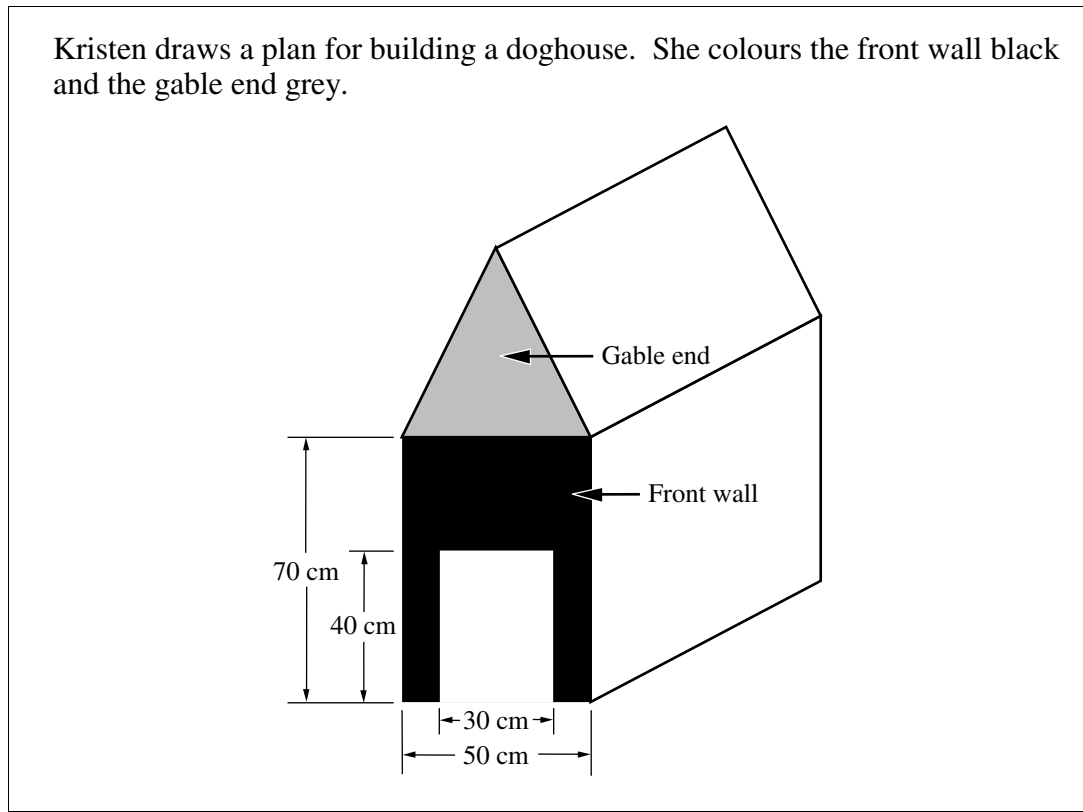


The image shows four bags of dog food. From left to right: 1. 'Grow Fast Dog Food' in a grey bag with a dog's face, priced at \$0.40/125 g. 2. 'Bark Less Dog Food' in a red and white checkered bag with a dog's face, priced at \$0.80/200 g. 3. 'Happy Hound Dog Food' in a grey bag with a dog's face, priced at \$0.35/100 g. 4. 'Perky Pup Dog Food' in a purple bag with white polka dots and a dog's face, priced at \$1.80/500 g.

Brand	Price	Weight
Grow Fast	\$0.40	125 g
Bark Less	\$0.80	200 g
Happy Hound	\$0.35	100 g
Perky Pup	\$1.80	500 g

32. Which of the brands of dog food labelled above is the **most** expensive per kilogram?
- A. Grow Fast
  - B. Bark Less
  - C. Happy Hound
  - D. Perky Pup

Use the following diagram to answer questions 33 and 34.



33. If she built this doghouse, the area of the front wall that is black would be
- A.  $1\,200\text{ cm}^2$
  - B.  $2\,100\text{ cm}^2$
  - C.  $2\,300\text{ cm}^2$
  - D.  $3\,500\text{ cm}^2$
34. On the plan, the gable end of the doghouse is in the shape of a triangle. The three angles of the triangle measure  $54^\circ$ ,  $63^\circ$ , and  $63^\circ$ . What type of triangle is this?
- A. Right triangle
  - B. Isosceles triangle
  - C. Scalene triangle
  - D. Equilateral triangle

Use the following diagram to answer question 35.

Kristen buys Max, their new dog, a box of “Bow Wow” treats. They come in a container in the shape of a pentagonal prism.



35. How many vertices does the container have?
- A. 12 vertices
  - B. 10 vertices
  - C. 6 vertices
  - D. 5 vertices

36. Max's dog tag has 4 digits. The sum of the 4 digits is 15. The number in the thousands position is 3 times the number in the tens position. The number in the hundreds position is 1 more than the number in the ones position. What is the number on the dog tag?
- A. 1 3 2 9  
 B. 6 3 2 4  
 C. 7 2 5 1  
 D. 9 2 3 1

*Use the following information to answer question 37.*

Some people say that in one year a dog ages the same amount as a person ages in seven years. Zach inferred that 1 "dog year" is equal to 7 "human years." He made this chart.

**Zach's Age Compared with Max's Age**

Zach's age	Max's age in "Human Years"
11	Max is born
12	7
13	14
14	21

37. How old will Max be in human years when Zach is 17?
- A. 17  
 B. 35  
 C. 42  
 D. 49

## Winter Camp

Mrs. Wong's Grade 6 students are going on a winter trip to the True North Wilderness Centre.



Use the following information to answer question 38.

Michael, Emma, Jeff, and Alicia each shopped at a different store to buy a neck warmer and mitts for their trip.

### Emma's Purchases

Neck warmer	\$5.59
Mitts	\$18.75

### Jeff's Purchases

Neck warmer	\$6.75
Mitts	\$24.98

### Michael's Purchases

Neck warmer	\$3.89
Mitts	\$19.82

### Alicia's Purchases

Neck warmer	\$2.05
Mitts	\$16.18

38. The person who paid approximately 8 times more for mitts than for a neck warmer is
- A. Emma
  - B. Jeff
  - C. Michael
  - D. Alicia



*Use the following information to answer question 39.*

The school is renting a bus to take the students to the Wilderness Centre and back. The distance from the school to the Wilderness Centre is 335.85 km. The bus company charges \$0.85 per kilometre for the first 90 kilometres and \$0.75 per kilometre for every kilometre after that.

39. What is the charge for a **one-way** trip to the Wilderness Centre?
- A. \$260.89
  - B. \$285.47
  - C. \$521.78
  - D. \$570.95

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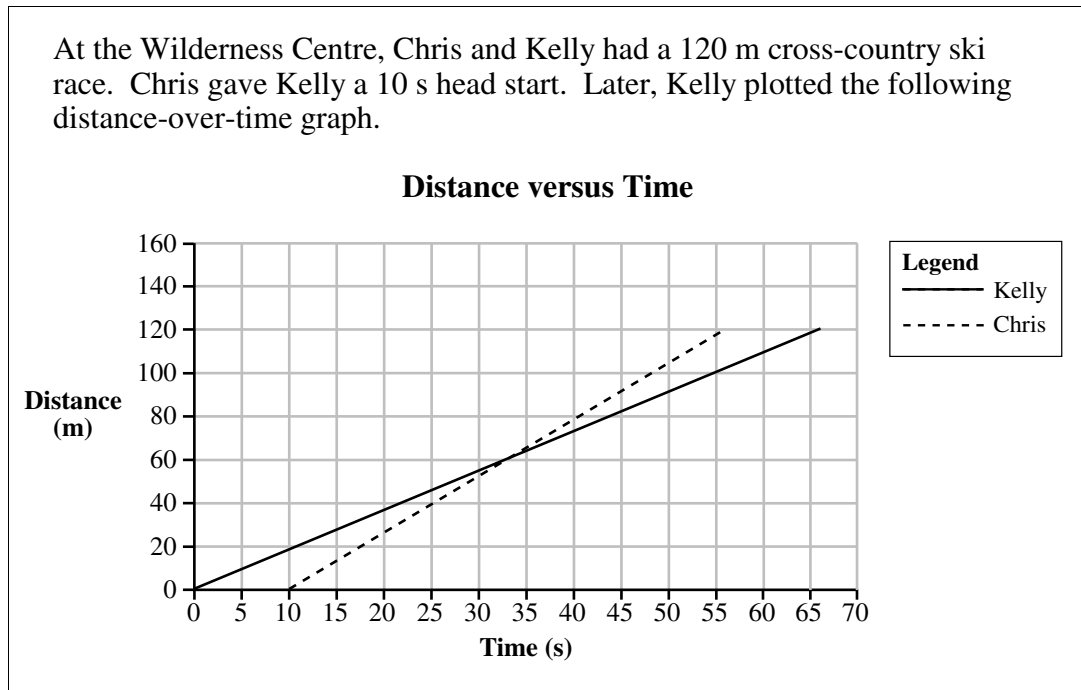
*Use the following information to answer question 40.*

The bus driver fills the gas tank with 135.65 L of gas before picking up the students.

40. The amount of gas used to fill the gas tank, rounded to the nearest tenth of a litre, is
- A. 135.6 L
  - B. 135.7 L
  - C. 136.0 L
  - D. 140.0 L

Use the following information to answer questions 41 and 42.

At the Wilderness Centre, Chris and Kelly had a 120 m cross-country ski race. Chris gave Kelly a 10 s head start. Later, Kelly plotted the following distance-over-time graph.



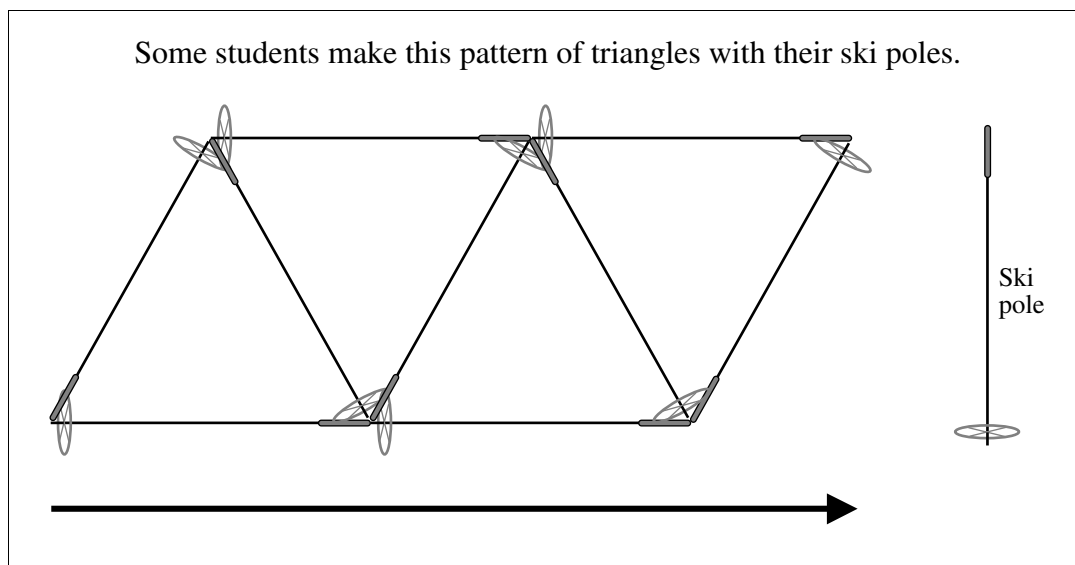
41. At about what distance did Chris pass Kelly?

- A. 35 m
- B. 55 m
- C. 60 m
- D. 120 m

42. How far did Kelly ski in 55 s?

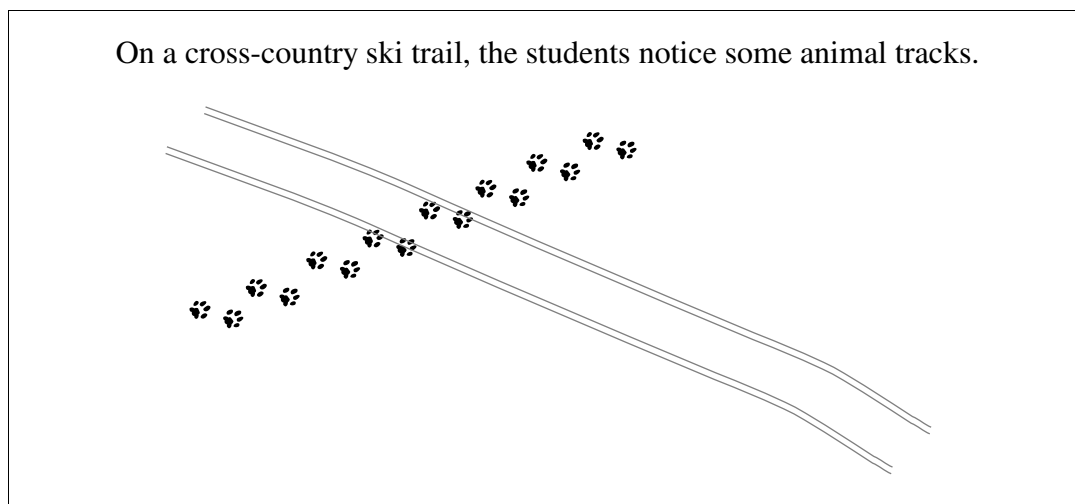
- A. 27 m
- B. 30 m
- C. 100 m
- D. 120 m

Use the following information to answer question 43.



43. If this pattern continues, how many ski poles will be needed to form 10 triangles?
- A. 10 ski poles
  - B. 20 ski poles
  - C. 21 ski poles
  - D. 30 ski poles

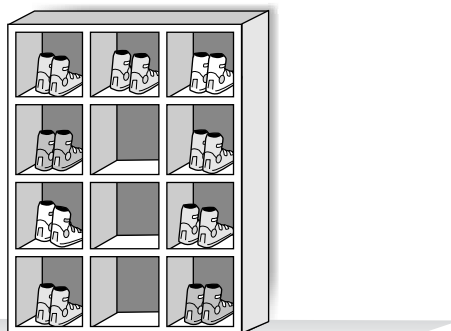
Use the following information to answer question 44.



44. The angles that are formed where the path of the skier and the path of the animal cross are
- A. reflex and acute angles
  - B. acute and obtuse angles
  - C. obtuse and straight angles
  - D. straight and reflex angles


Use the following information to answer question 45.

After skiing, the students put their boots in a special boot cupboard.



45. The percentage of spaces that are left empty in the boot cupboard is
- A. 25%
  - B. 30%
  - C. 70%
  - D. 75%

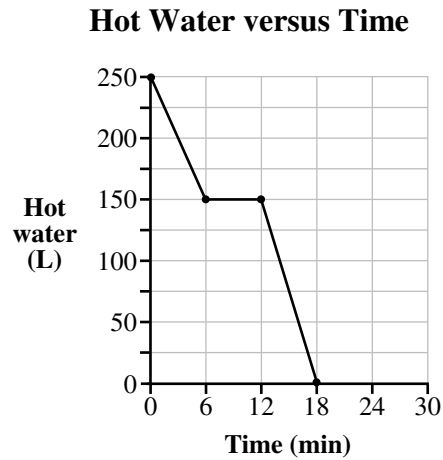
Use the following information to answer question 46.



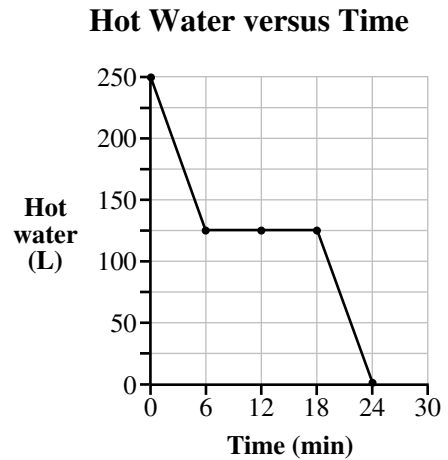
After skiing, one of the boys takes a shower. The hot water container in his cabin holds 250 L of water. He showers for 6 min and uses  $\frac{1}{2}$  of the water. The shower is then turned off for 6 min. One of his cabin mates then showers for 6 min until the container was empty.

46. Which of the following graphs shows the use of the hot water in the shower?

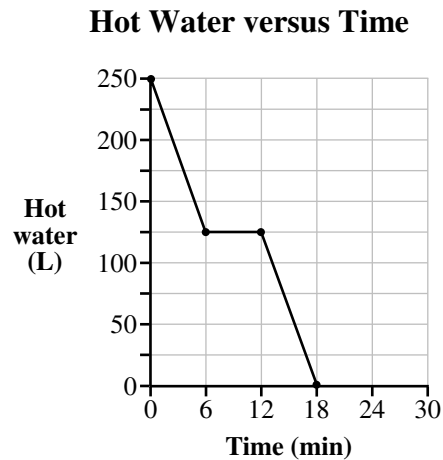
A.



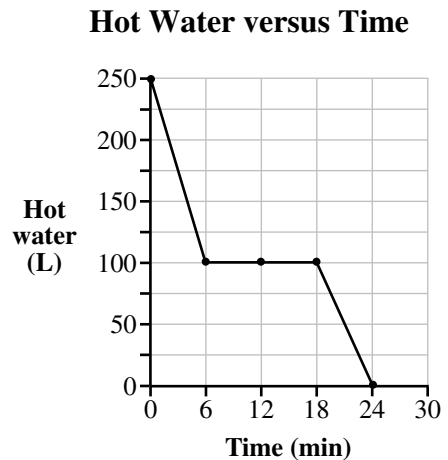
B.



C.



D.



Use the following information to answer question 47.

At supper, the students put square tables together. A single square table seats 8 students. Two square tables placed together seat 12 students. The pattern continues as shown below.

Tables	Students
1	8
2	12
3	16
4	?
5	24
6	?

47. In the above pattern, how many students can be seated if 6 tables are placed together?
- A. 20 students
  - B. 28 students
  - C. 32 students
  - D. 48 students
- 
48. For supper, the students eat hot dogs. The wieners came in packages of 6 and the buns came in packages of 8. Which of the following combinations would result in an equal number of wieners and buns?
- A. 9 packages of wieners and 12 packages of buns
  - B. 12 packages of wieners and 9 packages of buns
  - C. 12 packages of wieners and 12 packages of buns
  - D. 9 packages of wieners and 9 packages of buns

Use the following information to answer question 49.

After drinking hot chocolate, the students relax around the fireplace playing number games. Peter asks his friends to complete the following pattern.

1	1	2	3	5	8	13	?
---	---	---	---	---	---	----	---

49. The next number in the pattern is

- A. 15
- B. 17
- C. 21
- D. 24



Use the following information to answer question 50.

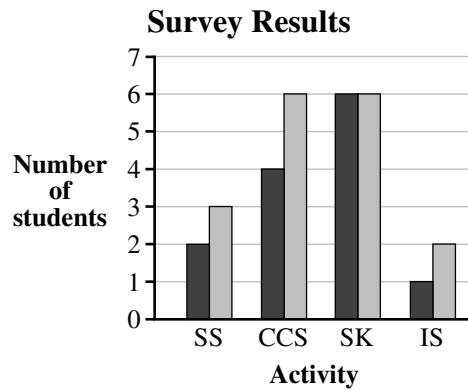
When the students return to the school, they can't stop talking about the trip to the Wilderness Centre.

One of the boys, Ping, surveys some of the students on the trip to see which single activity they enjoyed the most. He records their choices on the tally sheet below.

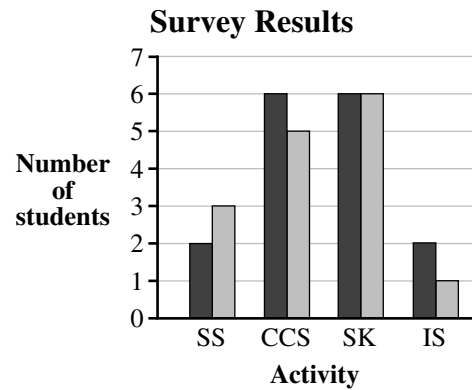
	Boys	Girls
Snow soccer (SS)		
Cross-country skiing (CCS)		/
Skating (SK)	/	/
Ice sculpting (IS)		

50. If ■ represents the boys and □ represents the girls, which of the following graphs shows Ping's data?

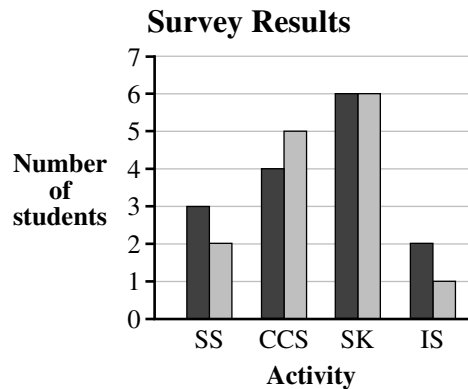
A.



B.



C.



D.

