

# Multiple-Choice Questions

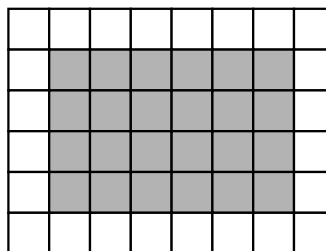



# Directions to Students about Answering Multiple-Choice Questions

- For this part of the assessment, make sure that you have the following materials along with *Booklet 1*:
  - a *Student Answer Sheet*
  - an HB pencil and an eraser
  - a ruler and a protractor
  - a scientific calculator or a graphing calculator
  - some paper for rough work
- Be sure to read the problem and all four answer choices for each question carefully. When you choose an answer, fill in the circle on your answer sheet that goes with that answer.
- Always choose the best answer. Mark only one answer for each question.
- There are 24 questions in *Booklet 1*. Try to answer all of them. Do not spend too much time on any one question.
- Figures in this section are not drawn to scale.
- Now do the following sample question. Fill in your choice on your *Student Answer Sheet* in the sample question box.

## Sample Question


Find the area of the shaded region in the rectangle below.



 1 square unit

- A 16 square units
- B 24 square units
- C 30 square units
- D 36 square units

For the sample question, you should have filled in the circle  $\textcircled{\text{B}}$  on your answer sheet. If you did not mark the circle that goes with B, erase the answer you marked and fill in the correct answer.

- You will have **30 min** to do the 24 multiple-choice questions.
- When you see the  sign, you have completed *Booklet 1*. Check your answers. Then wait quietly for directions from your teacher.

# Key Words and Phrases in Instructions

Throughout the assessment, key words and phrases are used to identify the type of response required from you. The key words and their explanations are listed below. Refer to these explanations to ensure you are responding to the question that is asked.

**Compare:**

Tell what is the same and what is different.

**Describe:**

Tell about something in a step-by-step manner.

Use words, numbers, graphs, diagrams, symbols, charts and/or pictures to do this.

**Explain:**

Use words and symbols to make your solutions clear and understandable.

**Give reasons for your answer:**

Explain your reasoning in your own words.

Give reasons and evidence to show your answer is correct or proper.

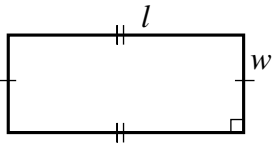
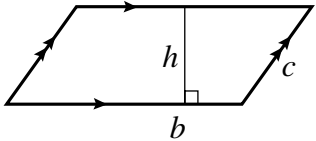
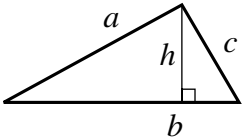
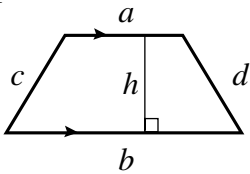
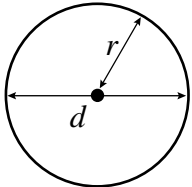
**List:**

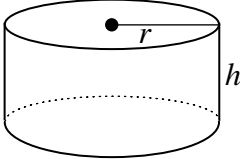
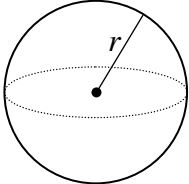
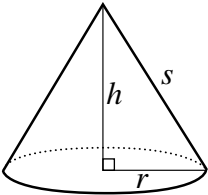
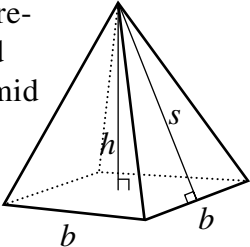
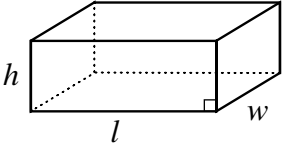
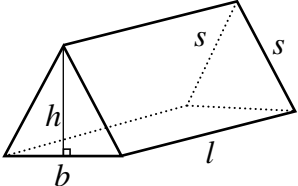
Write down or identify in point form.

**Show your work:**

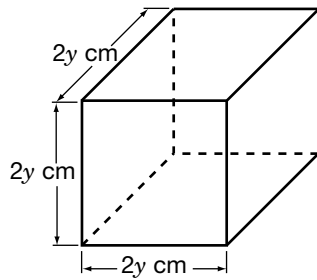
Record all calculations. Include all the steps you went through to get your answer. You may want to use words, numbers, graphs, diagrams, symbols, charts and/or pictures to explain your thinking.

# Formula Sheet

Geometric Figure	Perimeter	Area/Surface Area
<p>Rectangle</p> 	$P = 2l + 2w$ $P = 2(l + w)$	$A = lw$
<p>Parallelogram</p> 	$P = b + b + c + c$ $P = 2b + 2c$	$A = bh$
<p>Triangle</p> 	$P = a + b + c$	$A = \frac{bh}{2}$ <p><b>or</b></p> $A = \frac{1}{2}bh$
<p>Trapezoid</p> 	$P = a + b + c + d$	$A = \frac{(a + b)h}{2}$ <p><b>or</b></p> $A = \frac{1}{2}(a + b)h$
<p>Circle</p> 	$C = \pi d$ <p><b>or</b></p> $C = 2\pi r$	$A = \pi r^2$

Geometric Figure	Area/Surface Area	Volume
Cylinder 	$A_{top} = \pi r^2$ $A_{base} = \pi r^2$ $A_{side} = 2\pi r h$ $A_{total} = 2\pi r^2 + 2\pi r h$	$V = \pi r^2 h$
Sphere 	$A = 4\pi r^2$	$V = \frac{4}{3} \pi r^3$
Cone 	$A_{cone} = \pi r s$ $A_{base} = \pi r^2$ $A_{total} = A_{cone} + A_{base}$	$V = \frac{1}{3} \pi r^2 h$
Square-based pyramid 	$A_{triangle} = \frac{1}{2} b s \text{ (for each triangle)}$ $A_{base} = b^2$ $A_{total} = A_{4 \text{ triangles}} + A_{base}$	$V = \frac{1}{3} b^2 h$
Rectangular prism 	$A_{total} = wh + wh + lw + lw + lh + lh$ $A = 2(wh + lw + lh)$	$V = lwh$
Isosceles triangular prism 	$A_{triangle} = \frac{1}{2} b h \text{ (for each triangle)}$ $A_{rectangles} = ls + lb + ls$ $A_{total} = A_{rectangles} + A_{2 \text{ triangles}}$	$V = \frac{1}{2} (bh)l$

1. Each side of a cube is  $2y$  cm long. What is the volume of the cube?



- A  $8y^3 \text{ cm}^3$   
B  $6y \text{ cm}^3$   
C  $4y^3 \text{ cm}^3$   
D  $2y \text{ cm}^3$
2. The total cost,  $C$ , in dollars, of running an advertisement in a newspaper is made up of an initial cost of \$12, plus a charge of \$5 per day, where  $n$  represents the number of days.



Which equation represents this relationship?

- F  $C = 12n + 5$   
G  $C = 12 + 5n$   
H  $C = (12 + 5)n$   
J  $C = 12 + 5 \div n$

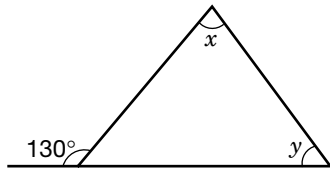
3. The cost,  $C$ , in dollars to print leaflets,  $n$ , is given by the formula  
 $C = 35 + 0.03n$ .



What is the cost of printing 900 leaflets?

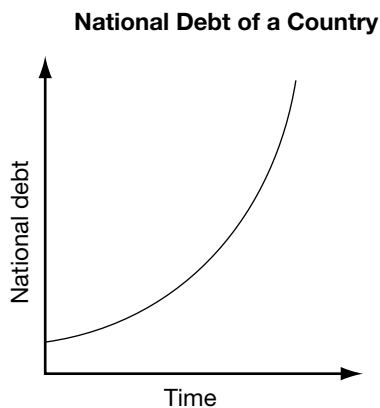
- A \$27.00  
B \$35.00  
C \$37.70  
D \$62.00
4. Simplify the following expression.  
 $(x^2 + 4x + 3) + x(3 - x)$
- F  $x + 3$   
G  $3x$   
H  $7x + 3$   
J  $-2x^2 + 4x + 3$

5. Pat draws this figure.



What is the relationship between the angles in this diagram?

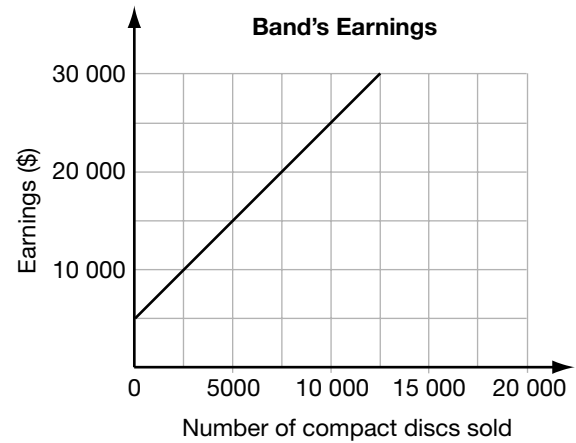
- A  $y = x$
  - B  $y = x + 50^\circ$
  - C  $x + y = 50^\circ$
  - D  $x + y = 130^\circ$
6. Study the following graph that shows the relationship between the national debt of a country and time.



Which statement is true?

- F The national debt is growing linearly.
- G The national debt is growing non-linearly.
- H As time increases, the national debt decreases.
- J As time increases, the national debt stays constant.

7. A recording company offers a band a \$5000 signing bonus plus \$2 for every CD sold as shown on the graph.

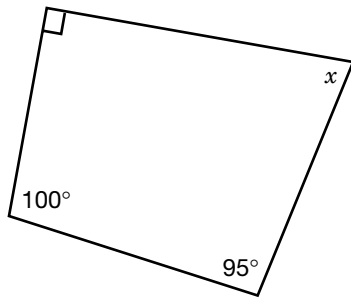


How many compact discs must the band sell in order to earn \$25 000?

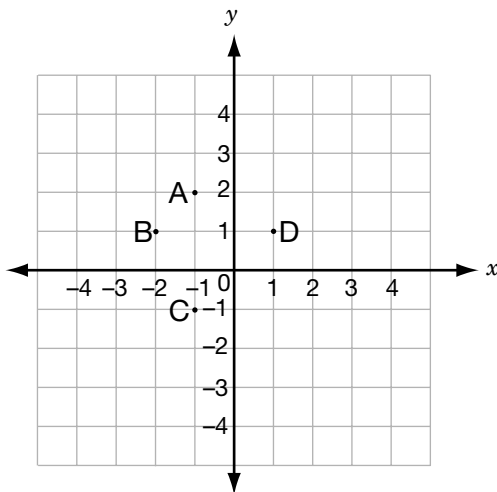
- A 5000
- B 7500
- C 10 000
- D 15 000



8. What is the value of angle  $x$  in the quadrilateral below?

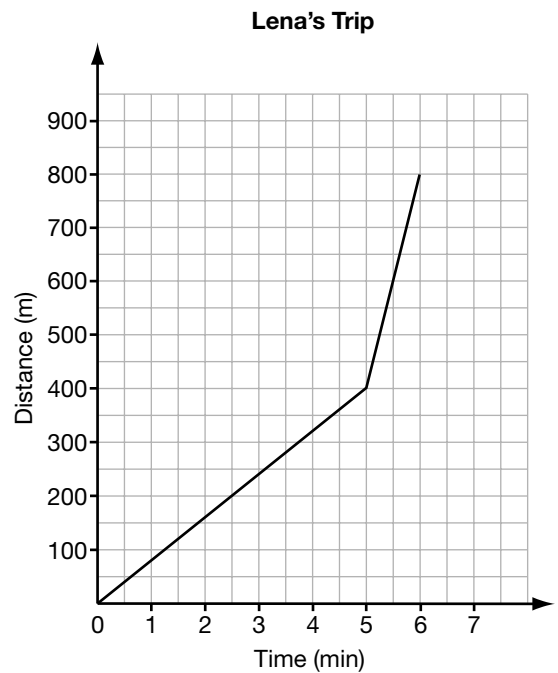


- F  $45^\circ$   
 G  $60^\circ$   
 H  $75^\circ$   
 J  $50^\circ$
9. Which points on the graph have the same  $y$ -coordinates?



- A A and B  
 B A and C  
 C B and C  
 D B and D

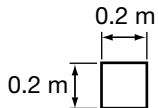
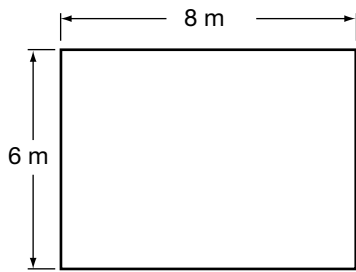
10. The graph below shows how far Lena jogged during a period of 5 min, and then sprinted during the next 1 min.



What was Lena's average speed, in metres per minute, for the first 5 min period?

- F 80 m/min  
 G  $133 \frac{1}{3}$  m/min  
 H  $213 \frac{1}{3}$  m/min  
 J 400 m/min

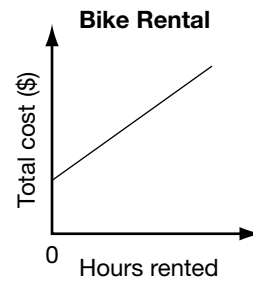
11. Troy wants to cover a rectangular floor that is 8 m by 6 m using tiles that are 0.2 m  $\times$  0.2 m.



How many tiles will he need to cover the floor?

- A 400
- B 1 200
- C 2 300
- D 4 500

12. Pierre rents a bicycle and pays an initial fee plus an hourly rate as shown on the graph.



The next week he finds the initial fee has gone up but the hourly rate has stayed the same. Which new graph (dotted line) best represents the change?

