

# Grade 6 Mathematics Reference Sheet

## CONVERSIONS

1 inch = 2.54 centimeters

1 meter = 39.37 inches

1 mile = 5,280 feet

1 mile = 1,760 yards

1 mile = 1.609 kilometers

1 kilometer = 0.62 mile

1 pound = 16 ounces

1 pound = 0.454 kilogram

1 kilogram = 2.2 pounds

1 ton = 2,000 pounds

1 cup = 8 fluid ounces

1 pint = 2 cups

1 quart = 2 pints

1 gallon = 4 quarts

1 gallon = 3.785 liters

1 liter = 0.264 gallon

1 liter = 1,000 cubic centimeters

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## FORMULAS

**Triangle**

$$A = \frac{1}{2}bh$$

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**Right Rectangular Prism**

$$V = Bh \text{ or } V = lwh$$

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# Session 1



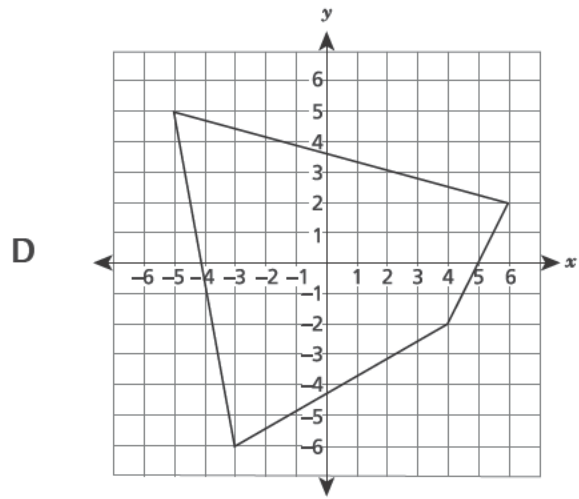
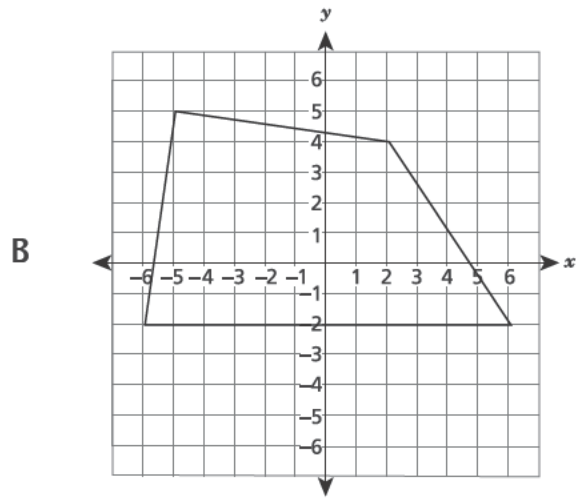
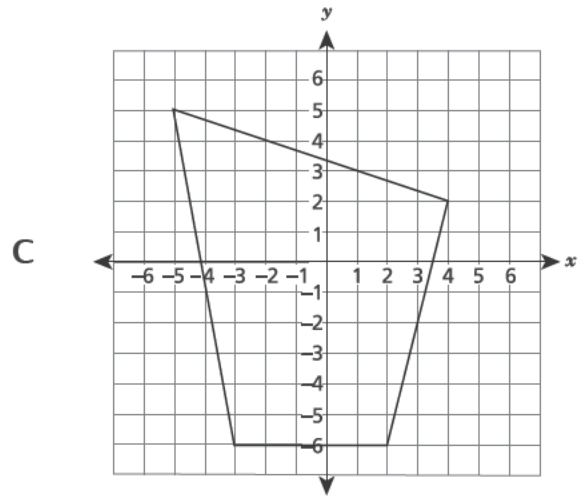
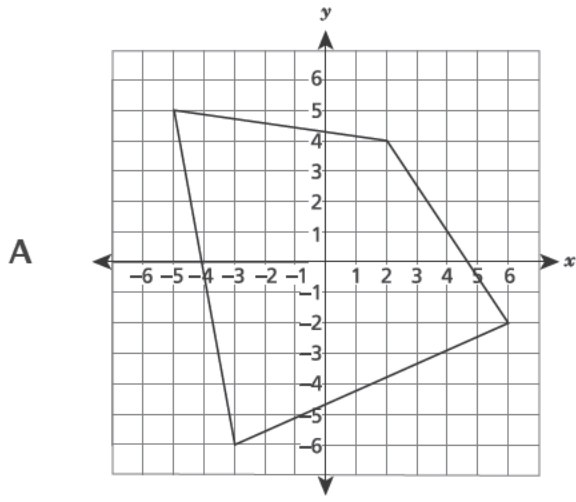
## TIPS FOR TAKING THE TEST

Here are some suggestions to help you do your best:

- Read each question carefully and think about the answer before making your choice.
- You have been provided with mathematics tools (a ruler and a protractor) and a reference sheet to use during the test. It is up to you to decide when each tool and the reference sheet will be helpful. You should use mathematics tools and the reference sheet whenever you think they will help you to answer the question.

1

Which coordinate plane shows a polygon with four vertices graphed at  $(-5, 5)$ ,  $(2, 4)$ ,  $(6, -2)$ , and  $(-3, -6)$ ?



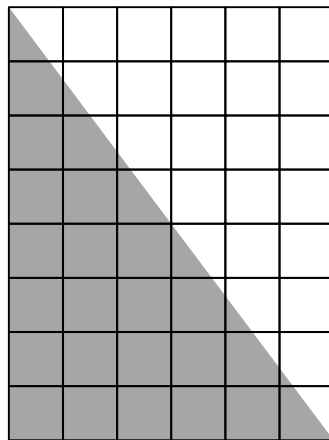
**2**

What is the value of the expression  $\frac{3^2 \cdot (2^3 + 4)}{2^2}$ ?

- A 10
- B 15
- C 19
- D 27

**3**

The grid shown below is in the shape of a rectangle.



What is the area, in square units, of the shaded part of the rectangle?

- A 14
- B 24
- C 28
- D 48

4

Debnil has 6 teaspoons of salt. The ratio of teaspoons to tablespoons is 3 : 1. How many tablespoons of salt does Debnil have?

A  $\frac{1}{18}$

B  $\frac{1}{2}$

C 2

D 18

**GO ON**

**7**

Which expression is equivalent to the phrase shown below?

the quotient of the sum of  $2t$  and  $2$ , and twice the cube of  $s$

**A**  $2t + \frac{2}{3s^2}$

**B**  $2t + \frac{2}{2s^3}$

**C**  $\frac{2t + 2}{3s^2}$

**D**  $\frac{2t + 2}{2s^3}$

**10**

A custodian plans to repaint some classroom bookcases. She has  $5\frac{1}{4}$  gallons of paint.

All of the bookcases are the same size and each requires  $\frac{3}{4}$  gallon of paint. How many bookcases will the custodian be able to repaint with that amount of paint?

- A** 3
- B** 4
- C** 7
- D** 15

**GO ON**

**13**

Carly purchased  $9\frac{1}{2}$  pints of ice cream for a party. If each guest will be served exactly  $\frac{3}{5}$  pint of ice cream, what is the greatest number of guests that Carly can serve?

- A 5
- B 9
- C 15
- D 16



**16**

At a bus station, buses begin their routes at 6:00 a.m. The schedule for two of the buses is based on the time intervals listed below.

- Bus A has a long route and leaves the station every 75 minutes.
- Bus B has a short route and leaves the station every 15 minutes.

What is the next time Bus A and Bus B will leave the bus station at the same time?

- A** 7:00 a.m.
- B** 7:15 a.m.
- C** 7:30 a.m.
- D** 8:30 a.m.

**17**

Which number has an absolute value greater than 5?

- A** -6
- B** -5
- C** 0
- D** 5

**GO ON**

26

A bakery made 9 cakes using 3 bags of flour. The bakery uses the same relationship between cakes made and the amount of flour used to make all of their cakes. Which table of values shows the relationship between the number of cakes the bakery makes to the number of bags of flour the bakery uses?

## CAKES BAKED

A

<b>Cakes</b>	1	2	3	4	5
<b>Bags of Flour</b>	3	6	9	12	15

## CAKES BAKED

C

<b>Cakes</b>	7	8	9	10	11
<b>Bags of Flour</b>	1	2	3	4	5

## CAKES BAKED

B

<b>Cakes</b>	3	6	9	12	15
<b>Bags of Flour</b>	1	2	3	4	5

## CAKES BAKED

D

<b>Cakes</b>	1	2	3	4	5
<b>Bags of Flour</b>	7	8	9	10	11

27

The volume,  $V$ , of any cube with a side length,  $s$ , can be determined using the formula  $V = s^3$ . What is the volume, in cubic centimeters, of a cube with a side length of 2.3 centimeters?

- A 5.29  
 B 6.9  
 C 8.027  
 D 12.167

GO ON

**28** Mr. Tola has a piece of wood that is  $8\frac{1}{4}$  feet in length. He wants to cut it into pieces that are each  $\frac{3}{4}$  foot in length. How many  $\frac{3}{4}$ -foot pieces of wood can Mr. Tola make?

- A 7
- B 8
- C 9
- D 11

**29** A zoo has 15 toucans and 60 parrots. What is the ratio of the number of toucans to the number of parrots at the zoo?

- A 1 : 4
- B 1 : 5
- C 4 : 1
- D 4 : 5

**30** A restaurant used 231 eggs last week. Of these, 46 were brown in color. The remaining eggs were white in color. Which equation can be used to solve for  $w$ , the number of white eggs used last week?

- A  $231 + 46w = 0$
- B  $46 + w = 231$
- C  $w = 231 + 46$
- D  $231 = 46w$

**31** Which expression is equivalent to  $9(9m + 3t)$  ?

**A**  $18m + 3t$

**B**  $81m + 3t$

**C**  $18m + 12t$

**D**  $81m + 27t$

**STOP**