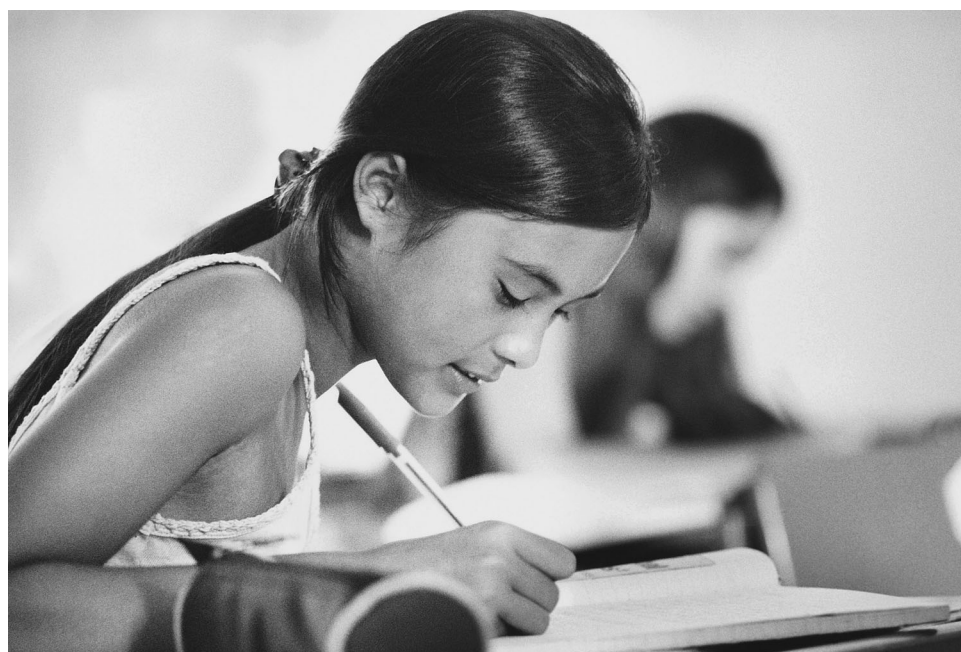




The Pennsylvania System of School Assessment



2005 – 2006

Mathematics Item and Scoring Sampler Grade 6

Pennsylvania Department of Education Bureau of Assessment and Accountability 2005–2006

MATHEMATICS

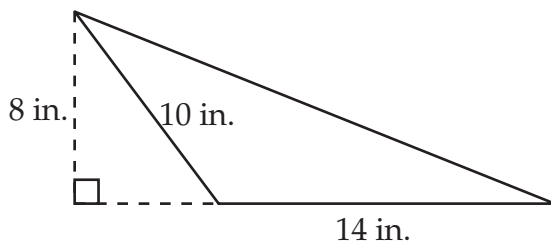
A.1.1.1

1. What percent is equivalent to 0.250?

- A 0.00250% *decimal moved in opposite direction*
- B 0.250% *only added percent sign*
- C 2.50% *decimal moved only one place*
- D 25.0% *

B.2.2.2

Use the diagram below to answer question 2.

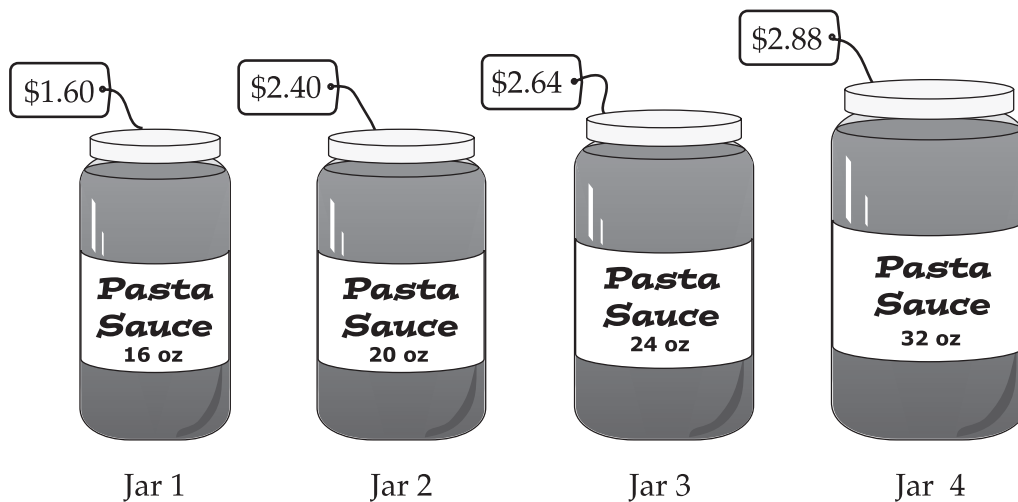


2. What is the area of the obtuse triangle?

- A 32 in.² $8 + 10 + 14$
- B 40 in.² $10 \times 8 \div 2$
- C 56 in.² *
- D 70 in.² $10 \times 14 \div 2$

A.2.2.2

3. The prices of 4 jars of pasta sauce are shown below.



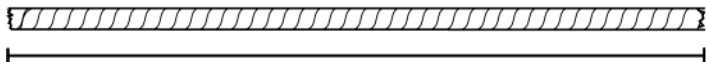
Which jar of pasta sauce has the **greatest** unit price?

- A Jar 1 $\$0.10$ per unit
- B Jar 2 *
- C Jar 3 $\$0.11$ per unit
- D Jar 4 $\$0.09$ per unit

MATHEMATICS

B.2.1.1

Use the figure below to answer question 4.

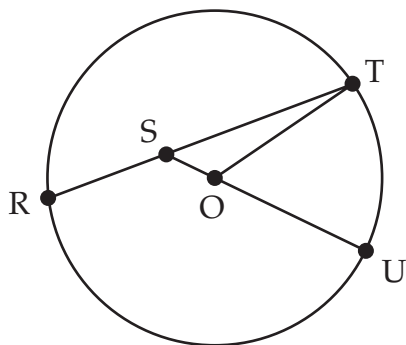


4. Using your ruler, what is the length of the string?

- A $3\frac{2}{16}$ inches
- B $3\frac{8}{16}$ inches
- C $3\frac{10}{16}$ inches *
- D $3\frac{12}{16}$ inches

C.1.1.1

5. Circle O is shown below.

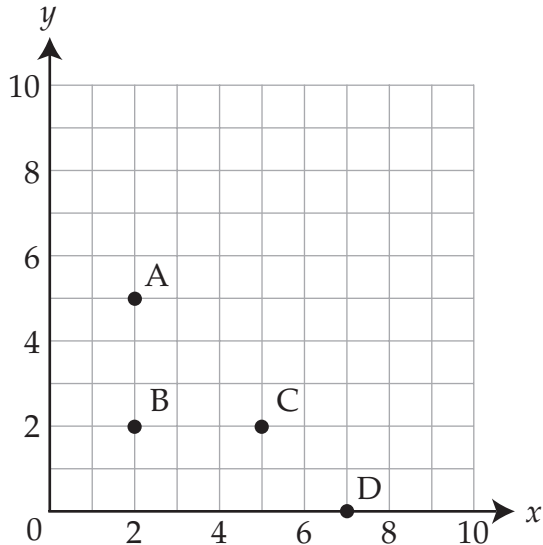


Which line segment is a chord of circle O?

- A \overline{RT} *
- B \overline{OT}
- C \overline{OS}
- D \overline{SU}

C.3.1.1

6. Points A, B, C, and D are shown on the coordinate grid below.



Which point is located at (2, 5)?

- A point A *
- B point B
- C point C
- D point D

MATHEMATICS

D.2.1.1

Use the expression below to answer question 7.

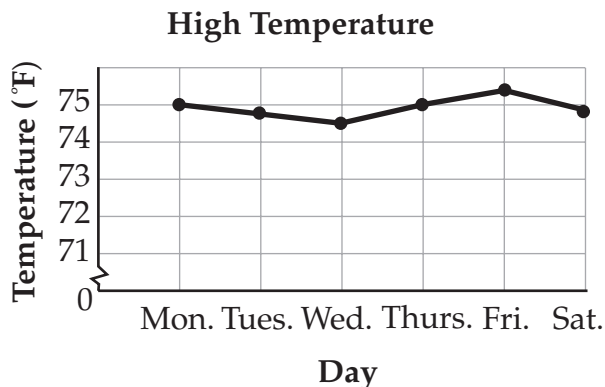
$$7 \times y - 3 + y \div 3$$

7. What is the value of the expression when $y = 12$?

- A 31
- B 67
- C 77
- D 85 *

D.3.1.1

8. The graph below shows the high temperature each day for 6 days.

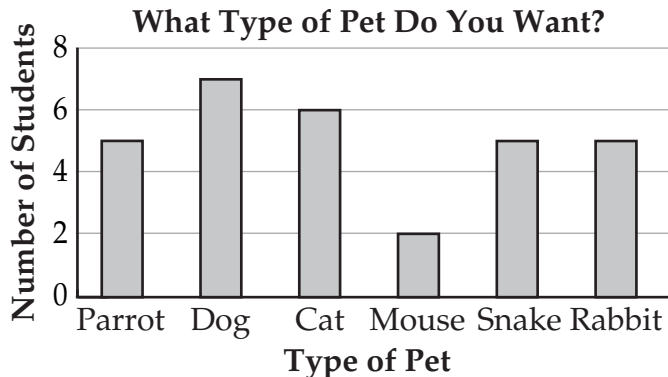


Based on the graph, the high temperature

- A increased the same number of degrees each day.
- B decreased the same number of degrees each day.
- C was exactly the same number of degrees each day.
- D increased some days and decreased other days. *

E.1.1.1

9. Mr. King asked 30 students about the type of pet they want. The bar graph below shows the results.



How many more students want a dog than want a rabbit?

- A 1
- B 2 *
- C 7
- D 12

MATHEMATICS

E.2.1.1

10. Ms. Norris gave a 12-point assignment to her students. The students' scores on the assignment are shown on the table below.

Students' Scores

Score	Tally
8	
9	
10	
11	
12	

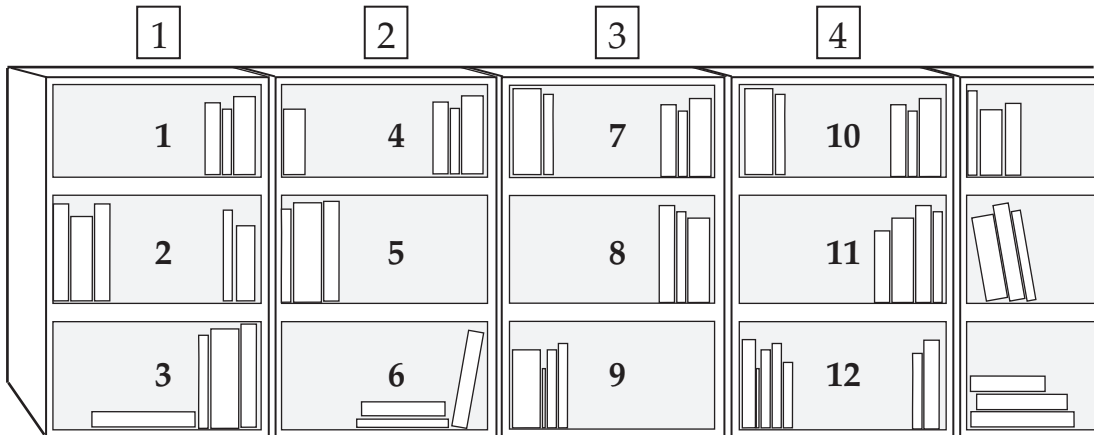
What is the **median** student score?

- A 9
- B 10
- C 11 *
- D 12

MATHEMATICS

D.1

11. The library has one long row of bookcases against a wall. Each bookcase has a top, middle, and bottom shelf. Each bookcase and each shelf is numbered as shown in the drawing below.



- A. Based on the drawing, complete the table to show what the shelf numbers should be for a bookcase labeled number 7. Show or explain all your work.

Bookcase Number 7

Shelf Position	Shelf Number
Top	
Middle	
Bottom	

Work or explanation:

GO TO THE NEXT PAGE TO FINISH THE QUESTION.

MATHEMATICS

11. *Continued.* Please refer to the previous page for task explanation.

- B. Sol made the table below to show the relationship between the bookcase numbers and the bottom shelf numbers.

Bookcases and Bottom Shelves

Bookcase Number	Bottom Shelf Number
9	27
10	30
11	33
12	36

Describe the rule that Sol followed to show the relationship between the bookcase numbers and the bottom shelf numbers.

- C. The librarian told Sol that the biography books were on shelf number 29 in the row of bookcases. Sol expects the biography books to be on the top shelf. Explain why Sol is **not** correct.

MATHEMATICS

E.3

12. Ali has a bag of marbles. The marbles are all the same size, but not all the same color, as shown on the table below.

Ali's Bag of Marbles

Color	Number
Blue	8
Red	7
Green	6
White	4

- A. Ali draws one marble out of the bag without looking. What is the probability that it will be green? Write the probability as a fraction.

- B. Ali draws a green marble out of the bag and puts it in her pocket. Then she puts a pink marble into the bag. Explain how this will change the probability of drawing a green marble the next time she reaches, without looking, into the bag.

GO TO THE NEXT PAGE TO FINISH THE QUESTION.

MATHEMATICS

12. *Continued.* Please refer to the previous page for task explanation

- C. Ali offered to give her sister a marble. Show all the different marble combinations that her sister could choose using 1 type, 1 design, and 1 color from the table.

Marble Choices

Type	Design	Color
Frosted	Dot	Green
Shiny	Twist	Blue
		White

- D. What kind of choice or choices could Ali add to the table, without adding a new category (column), if she wanted her sister to have exactly 16 different combinations from which to choose?