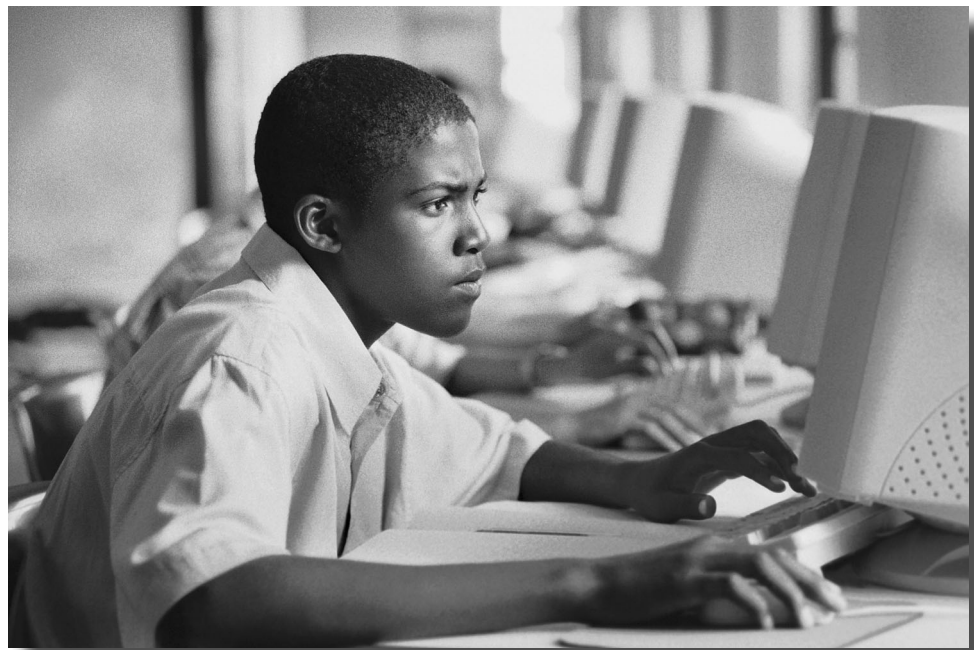




The Pennsylvania System of School Assessment



2005 – 2006

Mathematics Item and Scoring Sampler Grade 7

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

MATHEMATICS

A.3.1.1

1. Divide:

$$3\frac{3}{8} \div 9$$

A $\frac{1}{12}$ $\frac{6}{8} \div 9$

B $\frac{1}{8}$ $\frac{9}{8} \div 9$

C $\frac{3}{8}$ *

D $30\frac{3}{8}$ $\frac{27}{8} \div \frac{1}{9}$

A.2.2.1

2. During 30 minutes of TV time, commercials were on for 9 minutes. The rest of the time a TV program was shown. What is the ratio of the number of minutes of commercials to the number of minutes the TV program was shown?

A 3:7 *

B 3:10 *9:30 reduced*

C 7:10 *21:30 reduced*

D 7:17 *30 + 21 = 51; 21:51 reduced*

B.1.1.1

3. Mara rides the school bus for 45 minutes each day. What is the total amount of time Mara rides the school bus in 5 days?

A 2 hours 15 minutes

225 minutes as 2.25 hrs.

B 2 hours 25 minutes

225 minutes as 2 hrs. 25 min.

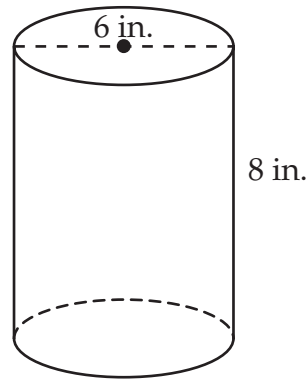
C 3 hours 45 minutes *

D 3 hours 75 minutes

3.75 hrs. as 3 hrs. 75 min.

B.2.1.2

4. A can in the shape of a cylinder has a diameter of 6 inches (in.) and a height of 8 in., as shown below.



What is the approximate volume of the can? (Use $\pi = 3.14$.)

A 48 in.^3 6×8

B 72 in.^3 $6 \times 2 \times 6$

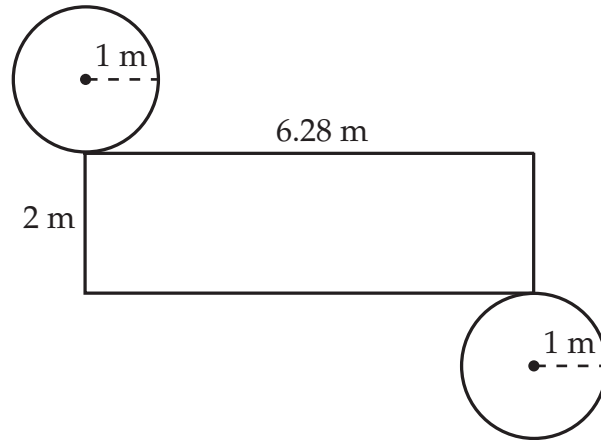
C 226 in.^3 *

D 904 in.^3 $6 \times 6 \times 3.14 \times 8$

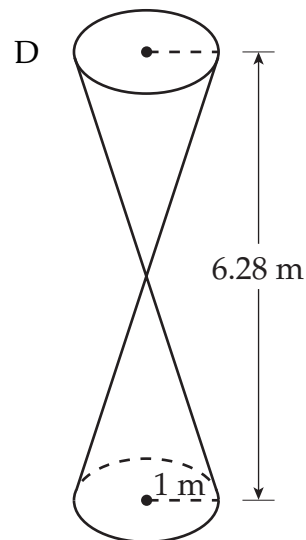
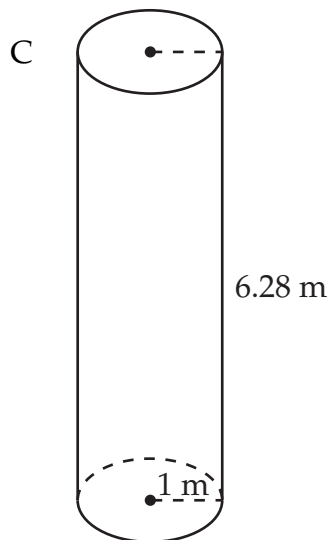
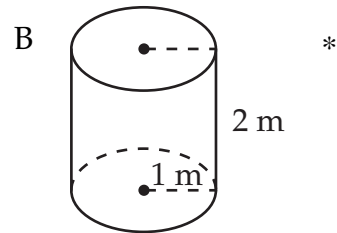
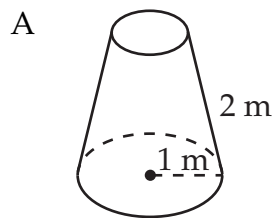
MATHEMATICS

C.1.1.2

5. The net of a 3-dimensional figure is shown below.



Which figure could be made by folding the net?



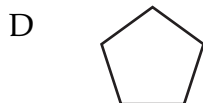
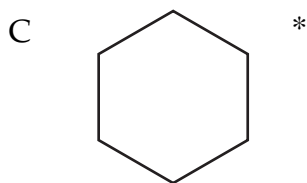
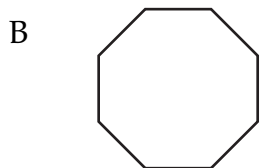
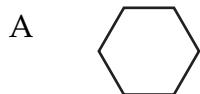
MATHEMATICS

C.1.2.1

Use the figure below to answer question 6.



6. Which is congruent to this figure?



D.1.1.1

7. Kristi placed four cards on the table. The numbers on the cards followed a pattern.

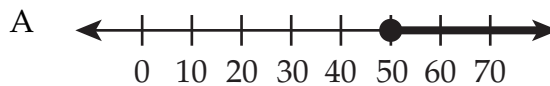


If the pattern continues what should be the next number?

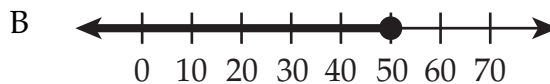
- A 69 *1 card; 1 added*
- B 102 *sum of numbers*
- C 113 *difference (68 - 23) added to 68*
- D 203 *

D.2.1.2

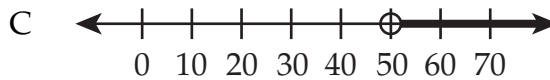
8. Which graph represents $m < 50$?



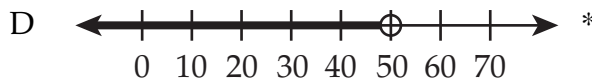
closed circle, incorrect direction



closed circle



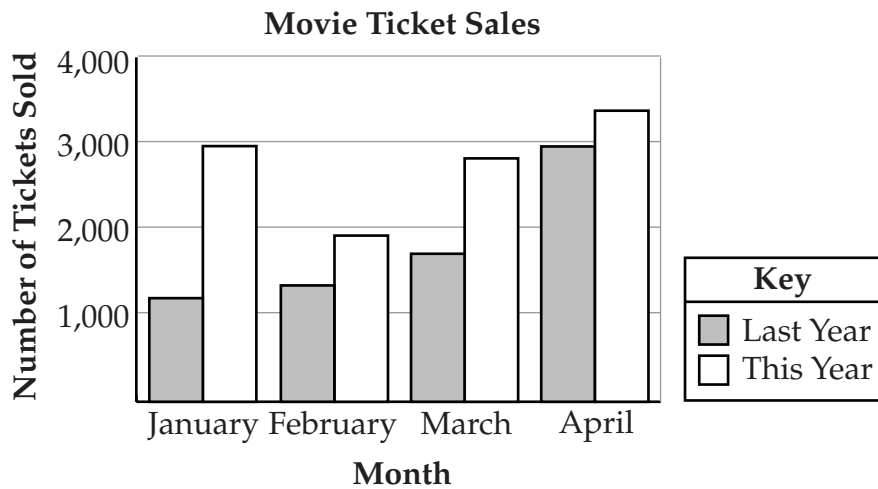
incorrect direction



MATHEMATICS

E.1.1.1

Use the bar graph below to answer question 9.



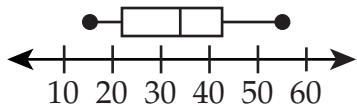
9. Based on the bar graph, which month had the **greatest** increase in the number of tickets sold from last year to this year?
- A January *
 - B February
 - C March
 - D April

MATHEMATICS

E.2.1.1

10. The box-and-whisker plot below shows the number of volunteer hours students completed during a school year.

Student Volunteer Hours



Based on the box-and-whisker plot, the lower quartile value of the number of volunteer hours is between

- A 10 hours and 20 hours.

least value

- B 20 hours and 30 hours. *

- C 30 hours and 40 hours.

median

- D 40 hours and 50 hours.

upper quartile value

MATHEMATICS

A.3

11. The mathematics teacher placed a jar of marbles on his desk and asked his students to find the total number of marbles in the jar and the number of marbles of each color.

- A. The teacher attached an expression to the jar that, when simplified, would give the total number of marbles in the jar.

$$\frac{110 \times 5}{2\frac{1}{2}}$$

What is the total number of marbles in the jar?

GO TO THE NEXT PAGE TO FINISH THE QUESTION.

MATHEMATICS

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

- B. Complete the table below to show the portion and total number of each color marble in the jar. Write the answers in the 4 empty boxes. Show or explain all your work.

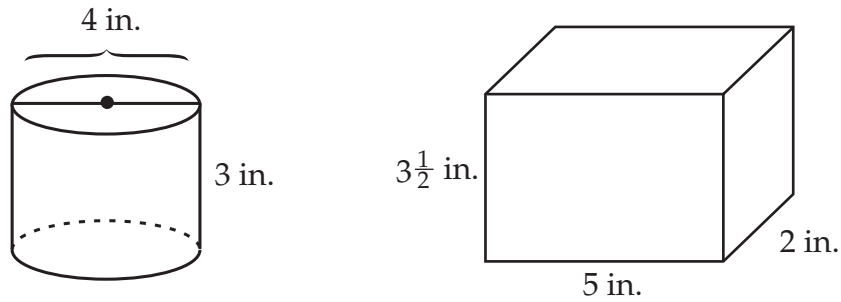
Total Marbles in the Jar

Color	Portion in the Jar	Number in Jar
Red	0.25	
White	$\frac{2}{5}$	
Blue		

MATHEMATICS

B.2

12. The Leaf Tea Company designed new containers for packaging tea. The green tea is packaged in a cylindrical container, and the black tea is packaged in a rectangular prism container as shown below.



- A. What is the volume of the cylindrical container? Show all your work. Label your answer with the correct units.

GO TO THE NEXT PAGE TO FINISH THE QUESTION.

MATHEMATICS

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

B. What is the volume of the rectangular prism container? Show all your work. Label your answer with the correct units.

C. The company applied a sticker that exactly covered one of the two smallest sides of the rectangular prism container. What is the area of the sticker? Label your answer with the correct units.