

**CIE-USA/DFW**

**MathComp 2010**

**Grade 5**

**30 questions**

**Time: One Hour**

Note:

- Make sure to write all your answers on the answer sheet. Only the answer sheet will be graded.
- Each question only has one correct answer.
- Print your name clearly and legibly below.

Name \_\_\_\_\_

Room \_\_\_\_\_

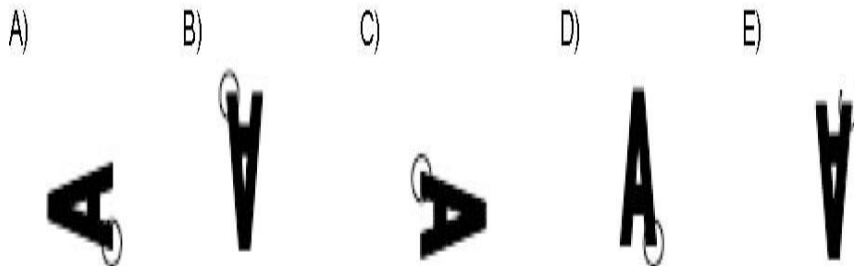
1. 137 minutes after 10:30 am is how many minutes before 1:00 pm?

- A. 11      B. 12      C. 13      D. 14      E. 15

2. How many letters of the word **PROJECTIVE** do not have any lines of symmetry?

- A) 1      B. 2      C. 3      D. 4      E. 5

3. The letter A is rotated  $180^\circ$  about O. What will be the position of A now?



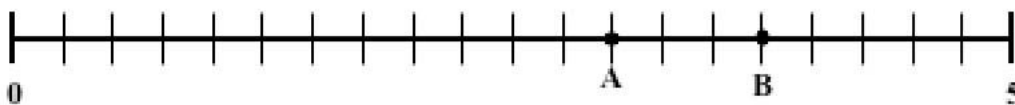
4. How many three-digit numbers are divisible simultaneously by 6, 8, and 10?

- A) 7      B. 11      C. 9      D. 10      E. 8

5. The sum of the numbers  $a, b,$  and  $c$  is 54. In addition,  $a$  is twice as large as  $b$  ; and  $b$  is 6 less than  $c$  .  
What is  $b$  ?

- A. 11      B. 12      C. 13      D. 14      E. 10

6. A number line from 0 to 5 is divided into 20 equal parts. What is the sum of the numbers located at points A and B?



- A. 6      B. 6.25      C. 6.5      D. 6.75      E. 7

7. You are given a cube, 10 cm on a side, and two identical pyramids with square bases, 10-cm on a side. You glue the two pyramids to opposite faces of the cube so that the 10 cm squares line up. How many edges does the solid have?

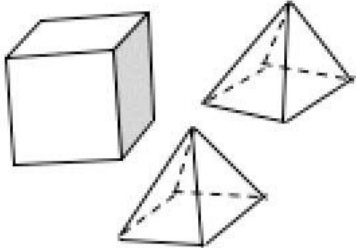
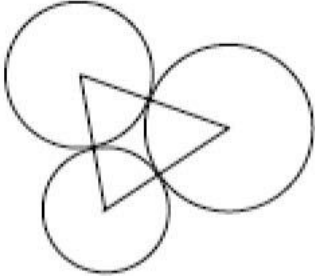
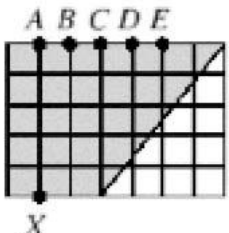
- A. 8                      B. 12                      C. 16                      D. 20                      E. 24

8. Three circles with radii 7cm, 8 cm, and 9 cm touch each other externally without overlapping. What is the perimeter, in cm, of the triangle formed by joining the centers of the circles?

- A. 12                      B. 24                      C. 30                      D.  $24\pi$                       E. 48

9. Which of the following straight lines cuts the shaded area in half?

- A. XA                      B. XB                      C. XC                      D. XD                      E. XE

<b>For problem 7:</b>	
<b>For problem 8:</b>	
<b>For problem 9:</b>	

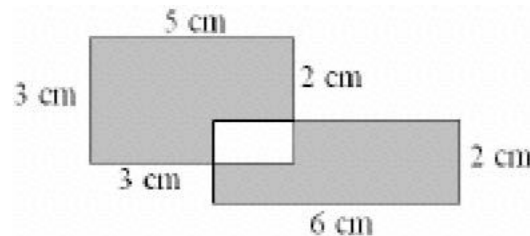
10. The area of a rectangle is  $70m^{12}n^4$  square units. If the length of the rectangle is  $7m^8n^2$  units, how many units width is the rectangle? ( $m \neq 0$  and  $n \neq 0$ )?

- A.  $6m^7n^3$  units
- B.  $35m^7n^3$  units
- C.  $10m^4n^2$  units
- D.  $16m^7n^3$  units
- E.  $25m^7n^3$  units

11. Find the missing number:  $\frac{1-2}{3} - \frac{4-5}{6} = \frac{7-8}{9-?}$

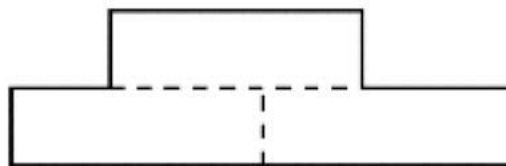
- A. 5
- B. -7
- C. 7
- D. -5
- E. 3

12. The figure is a combination of two overlapping rectangles as shown. The shaded area, in square cm, is



- A. 19
- B. 23
- C. 24
- D. 25
- E. 26

13. The shape on the right is made up of three rectangles, each measuring 5 cm by 2 cm. What is the perimeter of this shape, in cm?

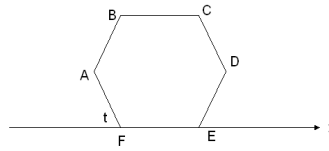


- A. 26
- B. 28
- C. 30
- D. 32
- E. cannot be determined

14. Alice eats  $\frac{1}{4}$  of pizza. Bob then eats  $\frac{1}{3}$  of what is left and, finally, Chris eats  $\frac{1}{2}$  of the remaining pizza. What fraction of the pizza is left?

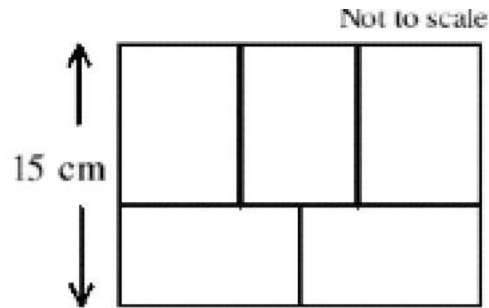
- A.  $\frac{1}{24}$
- B.  $\frac{1}{12}$
- C.  $\frac{1}{6}$
- D.  $\frac{1}{4}$
- E.  $\frac{1}{3}$

15. Figure ABCDEF below is a regular hexagon with line  $x$  passing through side FE. What is the measure of  $\angle t$  ?



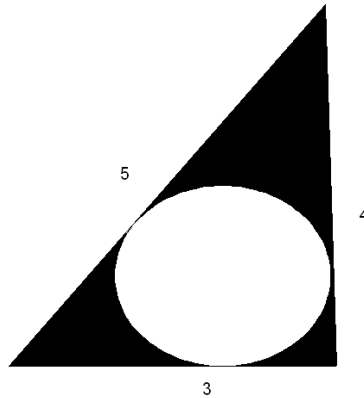
- A.  $30^\circ$       B.  $135^\circ$       C.  $120^\circ$       D.  $60^\circ$       E.  $45^\circ$

16. Five identical rectangles fit together inside a larger rectangle as shown. What is the area, in  $cm^2$ , of the larger rectangle?



- A. 270      B. 300      C. 330      D. 360      E. 450

17. What is the area of the shaded part of the triangle? (unit is  $cm$ )



- A.  $2.66 cm^2$       B.  $2.76 cm^2$       C.  $2.86 cm^2$       D.  $2.96 cm^2$       E.  $3.06 cm^2$

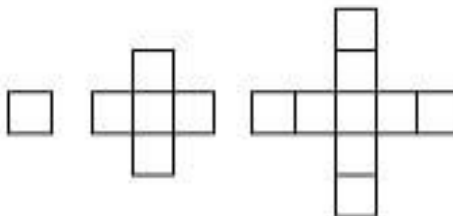
18. A solid wooden cube is painted red on the outside. The cube is then cut into 8 smaller cubes of equal size. What fraction of the total surface area of these 8 cubes is painted red?

- A.  $\frac{1}{8}$       B.  $\frac{1}{3}$       C.  $\frac{3}{8}$       D.  $\frac{3}{4}$       E.  $\frac{1}{2}$

19. What is the smallest prime number evenly divisible into 289?

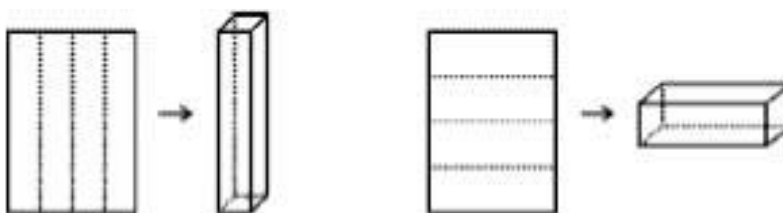
- A. 1                      B. 13                      C. 17                      D. 27                      E. 143

20. It takes four toothpicks to build the first figure in this set. How many toothpicks are needed to build the thirteenth figure?



- A. 148                      B. 145                      C. 144                      D. 151                      E. 152

21. Take two sheets of 12 inch by 20 inch paper. Fold one sheet vertically into fourths to form the sides of a rectangular prism. Fold the other sheet horizontally into fourths to form the sides of a different rectangular prism. What is the difference in perimeter, in cubic inches, between the larger prism and the smaller prism?



- A. 14                      B. 15                      C. 12                      D. 13                      E. 16

22. The manager of the Sherbet Shoppe wants to construct a circle graph showing the popularity of the various sherbet flavors he offers. Here is the tally of the favorite flavors of his first 30 customers on Saturday. The measure of the angle in the sector for lemon sherbet is closest to

Favorite Sherbet Flavors

Pineapple	I
Lime	
Lemon	I
Raspberry	
Orange	

- A. 30°                      B. 45°                      C. 60°                      D. 75°                      E. 90°

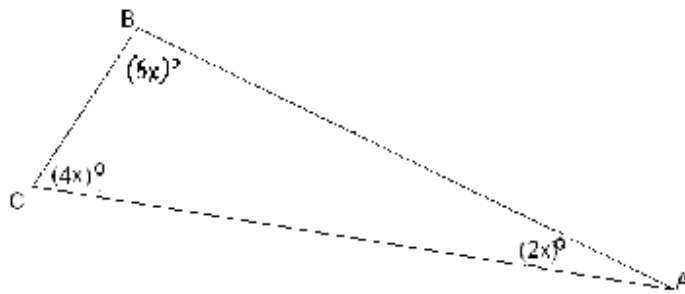
23. Jed scored the following numbers of points in his last 8 basketball games: 8, 21, 7, 15, 9, 15, 8 and 2. What is the median number of points scored by Jed in these 8 games?

- A. 10.6      B. 15      C. 8      D. 8.5      E. 9

24. Triangle ABC has sides of 5, 12, and 13. The width of a rectangle, whose area is equal to the area of the triangle, is 5. The perimeter of this rectangle is

- A. 14      B. 22      C. 24      D. 28      E. 36

25.



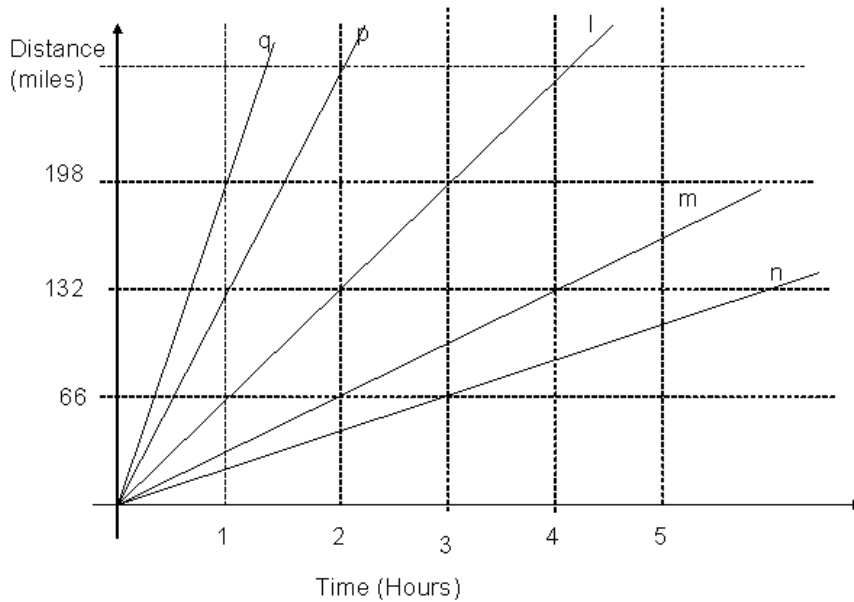
Choose one of the following closest to  $\angle BCA$

- A.  $15.5^\circ$       B.  $31^\circ$       C.  $46.5^\circ$       D.  $60^\circ$       E.  $64^\circ$

26. The last digit [units digit] of  $7^{2010} + 2009^7$  is

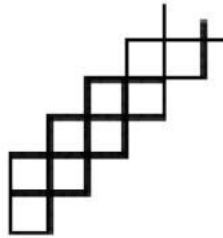
- A. 6      B. 3      C. 8      D. 7      E. 9

27. In the distance formula  $d = rt$ ,  $r$  represents the rate of change, or slope. Which ray on the graph best represents a slope of 132 mph?



- A. l                      B. m                      C. n                      D. p                      E. q

28. A shape consisting of 2010 small squares is made by continuing the pattern shown in the diagram. The small squares have sides of length 1 cm. What is the perimeter, in cm. of the entire shape?

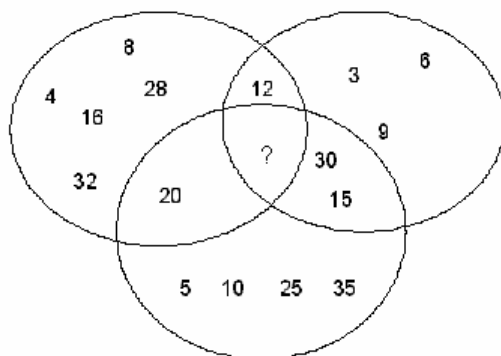


- A. 4016                  B. 4018                  C. 6020                  D. 6024                  E. 4022

29. The odd integers between 6 and 2010 are multiplied together. The last digit of the product is

- A. 1                      B. 3                      C. 5                      D. 7                      E. 9

30. This Venn diagram is used to classify counting numbers according to a set of rules. Which one of the following numbers belongs in the region of the diagram made by the question mark?



A. 45

B. 50

C. 60

D. 65

E. 70