



The CENTRE for EDUCATION  
in MATHEMATICS and COMPUTING

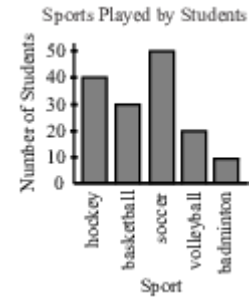
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Gauss Contest Grade 7

1. Erin receives \$3 a day. How many days will it take Erin to receive a total of \$30?  
(A) 8                      (B) 12                      (C) 14                      (D) 27                      (E) 10

2. Based on the graph shown, which sport is played by the most students?

- (A) hockey                      (B) basketball  
(C) soccer                      (D) volleyball  
(E) badminton

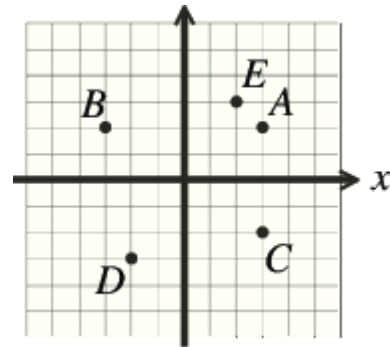


3.  $\frac{1}{2} + \frac{1}{4} + \frac{1}{8}$  is equal to

- (A) 1                      (B)  $\frac{1}{64}$                       (C)  $\frac{3}{14}$                       (D)  $\frac{7}{8}$                       (E)  $\frac{3}{8}$

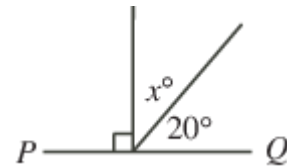
4. In the diagram, the point with coordinates  $(-2, -3)$  is located at

- (A) **A**                      (B) **B**                      (C) **C**  
(D) **D**                      (E) **E**



5. If  $PQ$  is a straight line segment, then the value of  $x$  is

- (A) 160                      (B) 70                      (C) 110  
(D) 20                      (E) 80



6. Which of these fractions is equivalent to  $\frac{15}{25}$ ?

- (A)  $\frac{3}{4}$                       (B)  $\frac{2}{3}$                       (C)  $\frac{3}{5}$                       (D)  $\frac{1}{2}$                       (E)  $\frac{5}{7}$

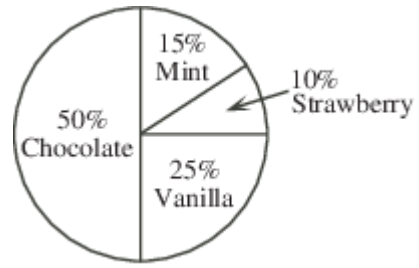
7. Which integer is closest in value to  $\frac{35}{4}$ ?

- (A) 10                      (B) 8                      (C) 9                      (D) 7                      (E) 6

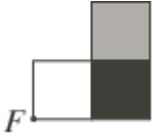
8. If  $9210 - 9124 = 210 - \square$ , the value represented by the  $\square$  is



- (A) 296                      (B) 210                      (C) 186                      (D) 124                      (E) 24


9. The circle graph shows the favourite ice cream flavours of those surveyed. What fraction of people surveyed selected either chocolate or strawberry as their favourite flavour of ice cream?

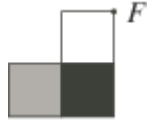
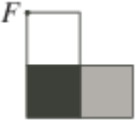


- (A)  $\frac{3}{5}$                       (B)  $\frac{1}{3}$                       (C)  $\frac{2}{3}$   
 (D)  $\frac{3}{4}$                       (E)  $\frac{5}{8}$

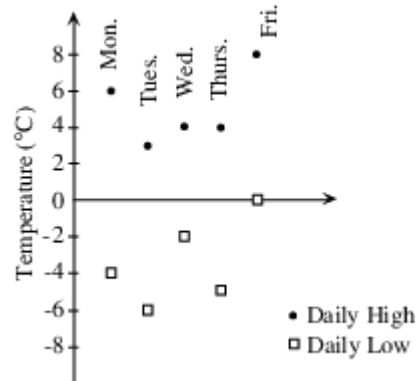
10. If the figure  is rotated  $180^\circ$  about point  $F$ , the result could be

(A)                       (B) 

(C) 

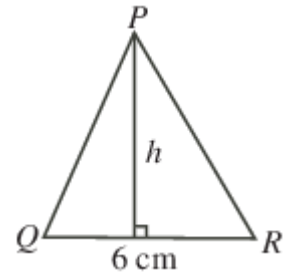
(D)                       (E) 

11. The temperature range on a given day is the difference between the daily high and the daily low temperatures. On the graph shown, which day has the greatest temperature range?



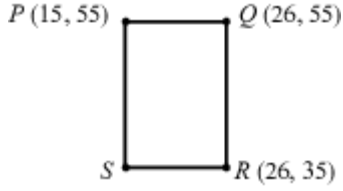
- (A) Monday                      (B) Tuesday  
 (C) Wednesday                      (D) Thursday  
 (E) Friday

12.  $\triangle PQR$  has an area of  $27 \text{ cm}^2$  and a base measuring 6 cm. What is the height,  $h$ , of  $\triangle PQR$ ?



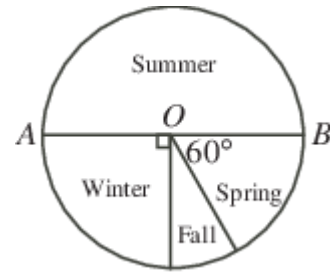
- (A) 9 cm                      (B) 18 cm                      (C) 4.5 cm  
 (D) 2.25 cm                      (E) 7 cm

13. Points  $P(15, 55)$ ,  $Q(26, 55)$  and  $R(26, 35)$  are three vertices of rectangle  $PQRS$ . The area of this rectangle is



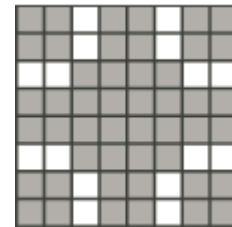
- (A) 360                      (B) 800                      (C) 220  
 (D) 580                      (E) 330

14. In the diagram,  $O$  is the centre of the circle,  $AOB$  is a diameter, and the circle graph illustrates the favourite season of 600 students. How many of the students surveyed chose Fall as their favourite season?  
 (A) 100 (B) 50 (C) 360  
 (D) 150 (E) 75

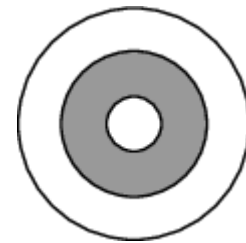


15. Sophia did push-ups every day for 7 days. Each day after the first day, she did 5 more push-ups than the day before. In total she did 175 push-ups. How many push-ups did Sophia do on the last day?  
 (A) 55 (B) 35 (C) 50 (D) 45 (E) 40

16. In the diagram, each small square in the grid is the same size. What percent of the grid is shaded?  
 (A) 84 (B) 80 (C) 90  
 (D) 75 (E) 66



17. In the diagram, the area of the shaded middle ring is 6 times the area of the smallest circle. The area of the unshaded outer ring is 12 times the area of the smallest circle. What fraction of the area of the largest circle is the area of the smallest circle?  
 (A)  $\frac{1}{3}$  (B)  $\frac{1}{6}$  (C)  $\frac{1}{12}$   
 (D)  $\frac{1}{18}$   
 (E)  $\frac{1}{19}$



18. Fred's birthday was on a Monday and was exactly 37 days after Pat's birthday. Julie's birthday was 67 days before Pat's birthday. On what day of the week was Julie's birthday?  
 (A) Saturday (B) Sunday (C) Monday (D) Tuesday (E) Wednesday

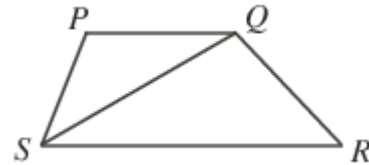
19. Each of  $a$ ,  $b$ ,  $c$ , and  $d$  is a positive integer and is greater than 3. If

$$\frac{1}{a-2} = \frac{1}{b+2} = \frac{1}{c+1} = \frac{1}{d-3}$$

then which ordering of these four numbers is correct?

- (A)  $a < b < c < d$  (B)  $c < b < a < d$  (C)  $b < a < c < d$   
 (D)  $d < a < c < b$  (E)  $b < c < a < d$
20. Chris lies on Fridays, Saturdays and Sundays, but he tells the truth on all other days. Mark lies on Tuesdays, Wednesdays and Thursdays, but he tells the truth on all other days. On what day of the week would they both say: "Tomorrow, I will lie."?  
 (A) Monday (B) Thursday (C) Friday (D) Sunday (E) Tuesday
21. Andrea has finished the third day of a six day canoe trip. If she has completed  $\frac{3}{7}$  of the trip's total distance of 168 km, how many km per day must she average for the remainder of her trip?  
 (A) 29 (B) 24 (C) 27 (D) 32 (E) 26

22. In the diagram,  $PQRS$  is a trapezoid with an area of 12.  $RS$  is twice the length of  $PQ$ . The area of  $\triangle PQS$  is
- (A) 3                      (B) 4                      (C) 5  
 (D) 6                      (E) 8



23. The list **11, 20, 31, 51, 82** is an example of an increasing list of five positive integers in which the first and second integers add to the third, the second and third add to the fourth, and the third and fourth add to the fifth. How many such lists of five positive integers have 124 as the fifth integer?
- (A) 10                      (B) 7                      (C) 9                      (D) 6                      (E) 8

24. How many of the five numbers **101, 148, 200, 512, 621** cannot be expressed as the sum of two or more consecutive positive integers?
- (A) 0                      (B) 1                      (C) 2                      (D) 3                      (E) 4

25. Kira can draw a connected path from  $M$  to  $N$  by drawing arrows along only the diagonals of the nine squares shown. One such possible path is shown. A path cannot pass through the interior of the same square twice. In total, how many different paths can she draw from  $M$  to  $N$ ?
- (A) 5                      (B) 6                      (C) 7  
 (D) 8                      (E) 9

