SOF

SCIENCE OLYMPIAD FOUNDATION

IMO

LEVEL - 2

Year 2015-16

1. Arrange the following from the greatest to the smallest.

LXIX	CDXXII	DCVI	DXXV
P	Q	R	S

   A. P, Q, R, S   B. P, R, S, Q   C. R, S, Q, P   D. R, Q, S, P

2. If 590 hundreds is added to 300 tens, then how many hundreds are there in the resulting number?

   A. 6200   B. 620   C. 62   D. 2600

3. In 73,569, the difference between the place value of the digit at the ten thousand's place and the digit at the hundred's place is _____.

   A. 2,500   B. 67,000   C. 70,500   D. 69,500

4. I am a two-digit number. My digits add to 12. I am an odd number. I am less than 41 but greater than 20. What number am I?

   A. 39   B. 57   C. 48   D. 75

5. Put the correct sign to make the given expression true.

   $$139 × 65 + 24 \boxed{} 240 × 87 − 12$$

   A. >   B. <
   C. =   D. Can't be determined

6. A number that is greater than 100 and less than 130 is a common multiple of 5 & 25, and a factor of 125. The product of its digits is _____.

   A. 2   B. 4   C. 6   D. 10

7. If ☆ + △ = 2309, 5 ✿ = 4365 and ✿ + △ = 1927, then find the value of 5 ☆ + 2△.

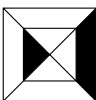   A. 4255   B. 6275   C. 7780   D. 8383

SPACE FOR ROUGH WORK

8. The product of 5420 and 18 is _____ greater than the product of 3098 and 14.

   A. 21398   B. 54188   C. 52913   D. 52931

9. What is the missing number in the following expression?

   $$28,712 + 1,293 - 2,586 = \underline{\ \ ?\ \ } - 1,920$$

   A. 27,409   B. 27,419   C. 29,339   D. 32,591

10. Which of the following numbers has the greatest number of factors?

    A. 35   B. 28   C. 48   D. 16

11. Which of the following statements is CORRECT?

    A. 154 beads can be divided equally into 4 and 7 bags.
    B. 1024 is a common multiple of 6 and 8.
    C. 4 and 9 are common factors of 252 and 144.
    D. 7 is a factor of 28 and a multiple of 14.

12. Mukti is 21 years old. Her father is thrice as old as she is. How old will she be when her father turns 70?

    A. 28 years   B. 29 years   C. 27 years   D. 30 years

13. Taking 165 away from the product of 143 and X gives 979. Find the value of X.

    A. 8   B. 9   C. 10   D. 12

14. Find the value of 2P + 3Q + 4R + S.

    A. 80
    C. 30
    B. 50
    D. 75

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      3  [P]  3   7
   +  1   3  [Q]  1
   _____
     [S]  2   2  [R]
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15. Mr. Sharma's class is going on a field trip. In each of the 2 vans, there will be 7 children and 1 adult. In each of the 4 cars, there will be 4 children and 1 adult. How many people are going on the field trip?

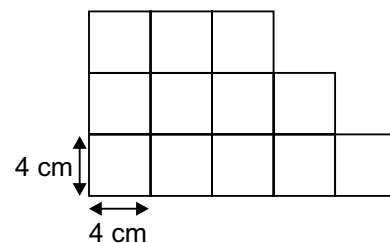   A. 17   B. 30   C. 36   D. 38

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16. Select the CORRECT match of shaded part of the figure.

A. $= \left[\dfrac{3}{8} - \dfrac{3}{16}\right]$ B. $= \left[\dfrac{1}{4} + \dfrac{1}{2}\right]$ C. $= \left[\dfrac{1}{6} + \dfrac{1}{3}\right]$ D. $= \left[\dfrac{3}{8} + \dfrac{3}{24}\right]$

17. If the given figure is made up of identical squares, then find its perimeter.

   A. 68 cm
   B. 60 cm
   C. 64 cm
   D. 62 cm

18. Which of the following statements can be true?

   A. *P* is the largest of all the other numbers.
   B. *S* is the smallest of all the other numbers.
   C. *P* is the smallest of all the other numbers.
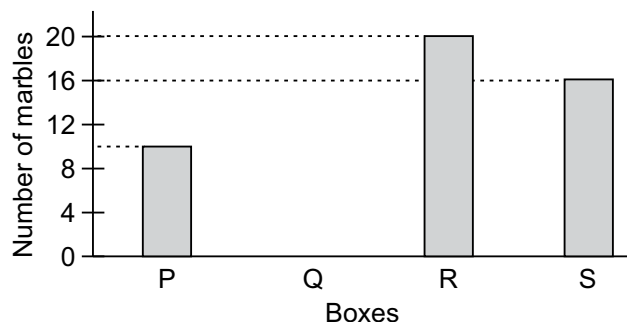   D. *R* is the largest of all the other numbers.

2709	P
2799	Q
2750	R
2790	S

19. Greatest five digit number that can be formed using the digits 7, 9, 0, 5, 8 each only once is _____.

   A. 79058
   B. 90758
   C. 98570
   D. 98750

20. Four boxes (P, Q, R and S) each contain different number of marbles. If the total number of marbles in these 4 boxes is 75, then find the number of marbles in Box Q.
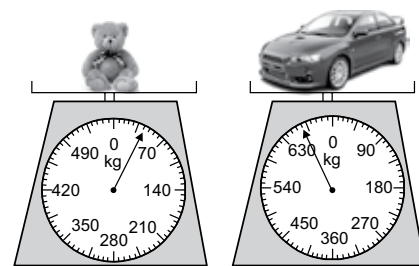
   A. 26
   B. 27
   C. 29
   D. 28

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21. What is the total weight of the teddy bear and the car?

    A. 30 kg

    B. 375 kg

    C. 708 kg

    D. 400 kg

22. Pia started doing her homework at 15:44. She completed her homework at 20:12. How long did she take to complete her homework?

    A. 4 hrs 28 mins   B. 4 hrs 32 mins   C. 5 hrs 28 mins   D. 5 hrs 32 mins

23. Himanshu had 80 kg 750 g of rice. He packed the rice into 12 packets, each weighing 5 kg 600 g. How much rice was left unpacked?
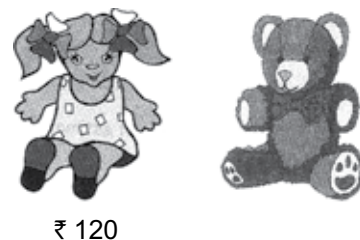
    A. 7 kg 200 g   B. 13 kg 550 g   C. 12 kg 950 g   D. 13 kg 950 g

24. Monika's weight is less than 60 kg but more than 29 kg. If she gains 3 kg, her weight will be a multiple of 8. If she loses 4 kg, her weight will be a multiple of 7. Find Monika's weight.

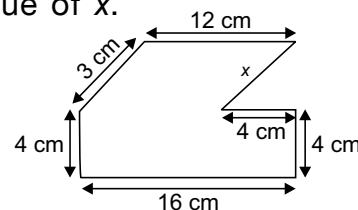   A. 51 kg   B. 53 kg   C. 48 kg   D. 42 kg

25. Deepti bought 1 doll and 4 teddy bears. The cost of a teddy bear is ₹ 20 less than the cost of a doll. If she gave the cashier a ₹ 1000 note, then how much change did she get?

    A. ₹ 680
    B. ₹ 780
    C. ₹ 8100
    D. ₹ 480

₹ 120

26. If the perimeter of the given figure is 50 cm, then find the value of x.

    A. 6 cm
    B. 7 cm
    C. 8 cm
    D. 9 cm

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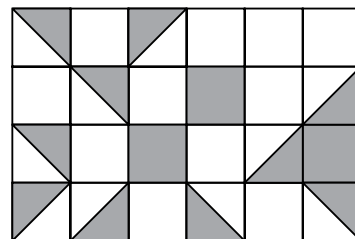
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27. Which of the following is equivalent to fraction of unshaded part?

   A. $\dfrac{1}{3}$

   B. $\dfrac{2}{3}$

   C. $\dfrac{1}{4}$

   D. $\dfrac{5}{18}$

28. The adjoining graph shows the number of students of four sections (P, Q, R, S) of class IV.
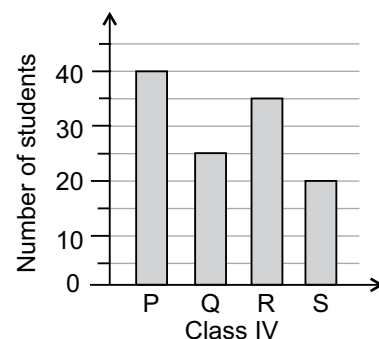
   Find the difference between the sum of number of students of section P & R and the sum of number of students of section Q & S.

   A. 35
   B. 30
   C. 85
   D. 10

29. The given figure shows the amount of money Armaan saved in 5 months. He saved the same amount of money every month. How much did he save in 1 year?

   A. ₹ 180
   B. ₹ 15
   C. ₹ 150
   D. ₹ 320

30. Which of the following is/are INCORRECT?

(i) $2 \times \left(6 + \dfrac{8}{10} + \dfrac{3}{10} \right) = 12$

(ii) $100 \times (87) = 8700$

(iii) $4 \times \left(\dfrac{9}{10} - \dfrac{9}{100} \right) = \dfrac{324}{100}$

(iv) $\dfrac{9}{5} \times \dfrac{4}{15} \times \dfrac{3}{2} \times \dfrac{5}{8} \times \dfrac{2}{5} \times \dfrac{0}{3} = 7$

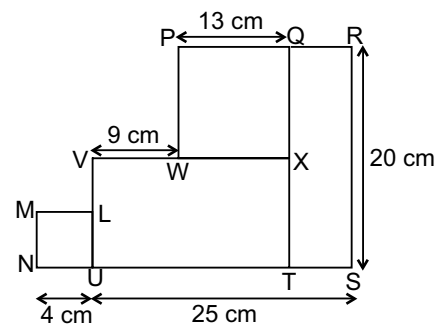   A. Both (i) and (ii)   B. (i), (ii) and (iii)   C. Only (iii)   D. Both (i) and (iv)

SPACE FOR ROUGH WORK

31. If QRST and TUVX are rectangles & PQXW and MLUN are squares, then the perimeter of the given figure is _____.

    A. 87 cm

    B. 92 cm

    C. 88 cm

    D. 98 cm

32. Find the value of (2P + 5Q) × 3R.

    A. 249

    B. 228

    C. 280

    D. 456

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    7 [P] 6  1
    6  8  2  9
  +    [P] 3  6
  _____
  1 [R] 7  2 [Q]
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33. If $\star$ + $\smile$ = 3216 and $\smile$ + $\smile$ = 2304, then find the value of $\star$ + $\star$ + $\smile$.

    A. 5280   B. 4130   C. 4140   D. 5128

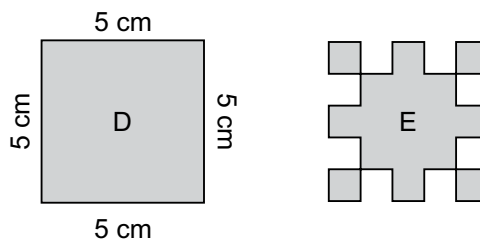34. The table below shows the points scored by Latika and Garima in four games of bowling.

Games	1st	2nd	3rd	4th	Total
Latika	82	?	72	90	?
Garima	54	86	80	84	304

If Latika scored 22 points less than Garima in the 2nd game, then how many more points did Latika score than Garima in the four games played?

    A. 6   B. 2   C. 8   D. 4

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35. Eight squares of side 1 cm each are cut out from the square D. Now it looks like shape E. What is the length of the boundary of shape E?

5 cm (top of D)
5 cm (left of D)
5 cm (right of D)
5 cm (bottom of D)

D

E

A. 28 cm B. 14 cm C. 36 cm D. None of these

SPACE FOR ROUGH WORK