1. The last digit when 8 045 – 4 058 is calculated is
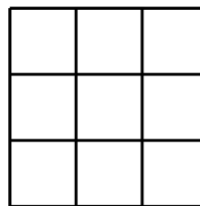
(A)   1   (B)   3   (C)   5   (D)   7   (E)   9

2. Eight red Smarties and one blue Smartie are randomly placed in the grid alongside, no more than one in each small square. What is the probability that the blue Smartie is in the centre square?

(A) $\dfrac{1}{3}$ (B) $\dfrac{1}{5}$ (C) $\dfrac{1}{7}$ (D) $\dfrac{1}{9}$ (E) $\dfrac{1}{10}$

3. The value of $2 - 0 + 1 \times 6$ is

(A)   – 4   (B)   4   (C)   8   (D)   9   (E)   18

4. John spends a total of 3 hours weeding, planting and watering in his garden. He spends 25 minutes more on weeding than planting, and 55 minutes less on watering than planting. How many minutes did he spend planting?

(A)   45   (B)   50   (C)   65   (D)   70   (E)   80

5. The girls in a group were each asked how many brothers they had, and the responses are represented in the graph alongside.

The average number of brothers per girl is
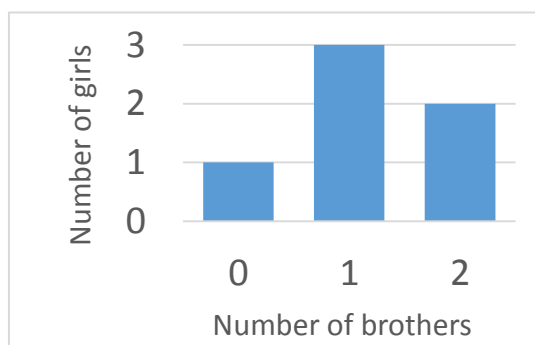
(A) $\dfrac{7}{6}$ (B)   1   (C) $\dfrac{6}{5}$ (D) $\dfrac{7}{5}$ (E) $\dfrac{5}{6}$

6. Which one of the following is not a rational number?

(A) $\sqrt{4}$ (B) π^0 (C) $\sqrt{6,25}$ (D) $\sqrt{14}$ (E) $\sqrt{0,49}$

7. A shop has a special offer on pumpkins: "Buy one, get one at half price". For this offer, the average cost per pumpkin is the same as in

(A) Two for the price of one   (B) Three for the price of one

(C) Three for the price of two   (D) Four for the price of three

(E) Five for the price of four

8. A large square contains two smaller squares with areas 36 cm^2 and 16 cm^2 respectively. What is the perimeter, in centimetres, of the shaded region?
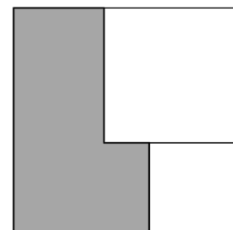
(A) 30   (B) 32   (C) 34   (D) 38   (E) 40

9. In how many different ways can the number 2016 be formed while following the arrows in the figure alongside?
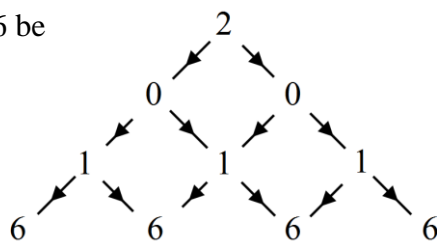
(A) 8   (B) 7   (C) 6   (D) 5   (E) 4

10. One horse eats 40 % of a bale of hay and another horse eats P % of what is left. If both horses ate the same amount, the value of P is

(A) 43   (B) $66\frac{2}{3}$ (C) 50   (D) 75   (E) 80

11. $\left(\dfrac{1}{8}\right)^2 \div \left(\dfrac{1}{2}\right)^8$ is equal to

(A) 2   (B) 4   (C) 8   (D) 16   (E) 32

12. Water pours into a tank at a constant rate. After 2 hours the tank was 36% full and after 10 hours it is 100% full. How full was the tank to begin with?

(A) 10%   (B) 12%   (C) 15%   (D) 18%   (E) 20%

13. When the grid shown alongside is completely filled in, the total along each row, column and diagonal must be the same. The value of x is

	x	33
31	28	

(A) 36   (B) 35   (C) 34   (D) 33   (E) 32

14. When a is increased by 20 % and b is decreased by 20 % the resulting values are equal. The value of $\dfrac{a}{b}$ is

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

15. OABC is a rectangle of length 16 cm. M is the midpoint of CB and P lies on AB so that BP = 3 cm. The length OM is 17 cm. The length of OP, in cm, is
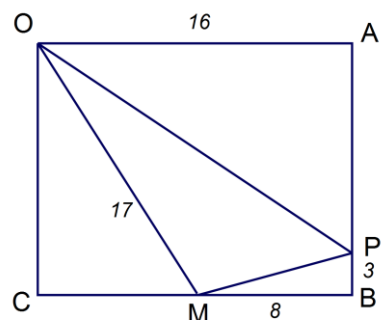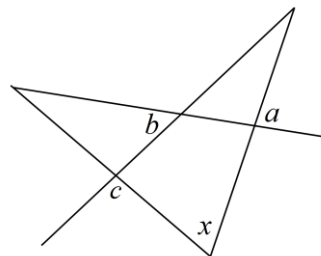

(A) 18   (B) 19   (C) 20   (D) 21   (E) 22

16. ABCD is a square divided by two straight lines. What is the area of the shaded region in cm^2?
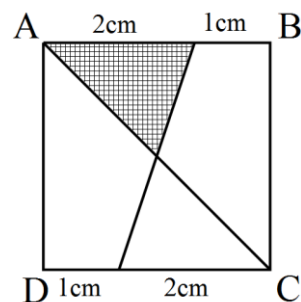
(A) 1   (B) 1,25   (C) 1,5   (D) 1,75   (E) 2

17. The diagram shows four intersecting straight lines.
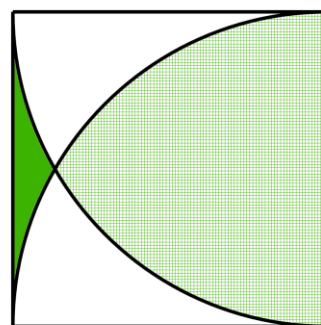x in terms of a, b and c is

(A) $b + c + a$ (B) $a + c - b$ (C) $a + b - c$

(D) $b + c - a$ (E) $180° - (a + b + c)$

18. All my Maths tests are out of the same total, and the average of my marks in the four tests so far is 75%. What percentage do I need in a fifth test so that my overall average will be 80%?

(A) 100   (B) 90   (C) 85   (D) 80   (E) 75

19. A target consists of two circles with the same centre. The larger circle has radius 12 cm. When shots hit the target randomly, 403 out of 900 land in the inner circle. The radius of the inner circle is closest to
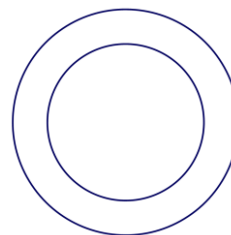
(A) 6 cm   (B) 7 cm   (C) 8 cm   (D) 9 cm   (E) 10 cm

20. The diagram shows a square and two quarter-circles. Each quarter-circle is centred on a vertex of the square. If the side of the square has length 2, then the difference between the areas of the two shaded regions is

(A) $2π - 4$ (B) $2π$ (C) $4 - π$ (D) $4π - 2$ (E) 2