

1. Work out

(a) $\frac{-6+(-5) \times -2}{-4+(-2)}$

(3mks)

(b) $\frac{3}{5} \div \frac{2}{3} - \frac{1}{6} \times \frac{7}{12}$ of $(\frac{1}{2} + \frac{4}{5})$

(3mks)

2. Find by factorisation the square root of 30625.

(3mks)

3. Use mathematical tables to evaluate $\sqrt{0.0014735}$ to 4 significant figures. (3mks)

4. Express the following decimals as fractions:

(a) 1.466666..... (3mks)

(b) 0.061818..... (3mks)

5. Simply and factorize the following expressions:

(a) $3ab + 2a^2b - ab - a^2b - 2ab^2$ (3mks)

(b) $2p - 4pq + 6pq$ (2mks)

6. A bottle contained $6\frac{2}{5}$ litres of milk. Alex took $\frac{3}{8}$ of it and Imani took $\frac{1}{4}$ of the remainder. How much milk remained in the bottle? (3mks)

7. Write the following numbers in standard form:

(a) 120000 (1mk)

(b) 0.00002935 (1mk)

(c) 4.561 (1mk)

8. Write out these numbers in ordinary notation:

(i) 3.45×10^5

(ii) 1.56×10^{-3}

(iii) 1.264×10^0 (3mks)

9. Use mathematical tables to find the square of the following numbers:

(a) 431802 (3mks)

(b) 0.000072468 (3mks)

10. Factorise and simplify the expression bellow:

(a) $\frac{x+xc+bx+bc}{3x+3c}$ (4mks)

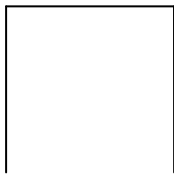
(b) Write the expression bellow as a single fraction:

$$\frac{x+y}{9x} - \frac{x-y}{6y} - 1 \quad (4mks)$$

11. In a panel of 45 judges the ratio of men to women is 7:2. The new constitution requires that the ratio of men to women be 5:4. Find the number of women required to join the panel to reach this ratio. (3mks)

12. It takes 30 students 6 days working 8 hours a day to till a piece of land. How many days would it take 50 students working 6 hours a day to till the land? (3mks)

13. The figure below represents the plan of a room in a house.



(a) What is the perimeter of the room? Take $\pi = \frac{22}{7}$ (3mks)

(b) It costs 125.50 to paint 1m² of the floor. Find the total cost of painting the whole floor. (4mks)

14. Simplify: $89 - (21 - 2 \times 6) + 4(5 - 2) - 20$ (2mks)

15. On a cold morning temperature of a town dropped by 4° in an hour. The next hour it dropped 5° more, and in the third hour it fell another 3° but in the fourth hour it rose by 2°. What was the temperature in the fourth hour? (3mks)