

**MENDAKI
P6 MATHEMATICS
PRELIMINARY EXAMINATION 2016**

PAPER 1

1.	3	6.	2	11.	3
2.	3	7.	4	12.	2
3.	1	8.	2	13.	1
4.	2	9.	3	14.	3
5.	4	10.	3	15.	3

$$\begin{aligned} 16. \quad \frac{3(12)+4}{8} &= \frac{40}{8} \\ &= 5 \end{aligned}$$

$$17. \quad 5 \div 12 \approx \mathbf{0.417}$$

$$18. \quad 2\frac{3}{4} + 1\frac{1}{2} + 2\frac{5}{8} = 6\frac{7}{8}$$

$$6\frac{7}{8} \div 3 = 2\frac{7}{24}$$

$$19. \quad \frac{7}{5} \times 100\% = \mathbf{140\%}$$

$$20. \quad \frac{1}{2} \times 5 \times 6 = \mathbf{15}$$

$$21. \quad 15 \div \frac{3}{5} = \mathbf{25}$$

22. $4 \div 2 = 2$

$2 \times 5 = \mathbf{10}$

23. $4 \times 4 \times 4 = 64$

$4 \times 4 \times 6 = \mathbf{96}$

24. $\frac{55}{100} \times 4000 = 2200$

25. $200 - 56 - 48 = 96$

$96 : 200 = \mathbf{12 : 25}$

26. $17.3 - 1 = 16.3$

$16.3 \div 0.5 = 32.6$

≈ 33

$0.35 \times 33 = 11.55$

$3.6 + 1 + 11.55 = \mathbf{16.15}$ (1M, 1A)

27. US : S Sq : Tri

7 : 12 2 : 1

= 8 : 4

$80 \div 8 = 10$ (1M)

$10 \times 19 = \mathbf{190}$ (1A)

28. $\frac{1}{2} \times 20 \times 20 = 200$
 $\frac{1}{2} \times 8 \times 8 = 32$
 $200 - 32 = \mathbf{168}$ (1M, 1A)

29. Before

$$B : C$$

$$5 : 3$$

$$= 10 : 6$$

After

$$B : C$$

$$5 : 1$$

$$352 \div 16 = 22 \text{ (1M)}$$

$$22 \times 5 = \mathbf{110}$$
 (1A)

30. $105 \div 5 = 21$

$$210 \div 21 = 10 \text{ (1M)}$$

$$10 + 2 = \mathbf{12}$$
 (1A)

PAPER 2

1. $150 + 160 + 150 - w = \mathbf{460 - w}$ (1M, 1A)

2. $\frac{5}{6}S = \frac{1}{3}M$

$$\frac{5}{6}S = \frac{5}{15}M$$

15 : 6 (1M, 1A)

3. $5640 \div 12 = 470$

$$470 \div 2 = 235 \text{ (1M)}$$

$$235 \times 7 = \mathbf{1645} \text{ (1A)}$$

4. $180 - 40 = 140$

$$140 \div 2 = 70$$

$$70 - 45 = 25$$

$$25 + 90 = \mathbf{115} \text{ (1M, 1A)}$$

5. $4 \text{ lengths} + 4 \text{ breadths} = 150$

$$2 \text{ lengths} + 2 \text{ breadths} = 150 \div 2$$

$$= \mathbf{75} \text{ (1M,1A)}$$

6. $\frac{2}{5} \div \frac{6}{7} = \frac{7}{15}$ (1m)

$$1 - \frac{7}{15} = \frac{8}{15}$$

$$48 \div \frac{8}{15} = \mathbf{90}$$
 (1M, 1A)

7. 2 units \rightarrow 18

$$1 \text{ unit} \rightarrow 18 \div 2 = 9 \text{ (1M)}$$

$$3 \text{ units} \rightarrow 9 \times 3 = \mathbf{27}$$
 (1M, 1A)

8. $\frac{5}{5}P + \frac{4}{4}K = 200$

$$\frac{3}{5}P + \frac{3}{4}K = 132$$

$$\frac{1}{5}P + \frac{1}{4}K = 132 \div 3$$
$$= 44$$

$$\frac{4}{5}P + \frac{4}{4}K = 44 \times 4 \text{ (1M)}$$
$$= 176$$

$$\frac{1}{5}P = 200 - 176 \text{ (1M)}$$
$$= 24$$

$$24 \times 5 = \mathbf{120}$$
 (1A)

9. Before

$$N : A : S$$

$$3 : 6 : 5$$

$$= 6 : 12 : 10$$

After

$$N : A : S$$

$$9 : 17 : 2$$

$$8 \text{ units} \rightarrow 96 \text{ (1M)}$$

$$96 \div 8 = 12$$

$$12 \times 9 = \mathbf{108} \text{ (1M, 1A)}$$

10. $20 \times \frac{1}{4} = 5 \text{ (1M)}$

$$12 - 5 = 7$$

$$7 \div \frac{1}{4} = \mathbf{28} \text{ (1M, 1A)}$$

11. $\frac{4}{5} \times \frac{1}{4} = \frac{1}{5} \text{ (1M)}$

$$\frac{3}{4} - \frac{1}{5} = \frac{11}{20} \text{ (1M)}$$

$$330 \div \frac{11}{20} = 600 \text{ (1M, 1A)}$$

12. $W : X + Y + Z$

$$2 : 7$$

$$= 40 : 140$$

$$X : W + Y + Z$$

$$2 : 3$$

$$= 72 : 108$$

$$Y : W + X + Z$$

$$1 : 3$$

$$= 45 : 135$$

$$180 - 40 - 72 - 45 = 23 \text{ (1M)}$$

$$W : X : Y : Z$$

$$40 : 72 : 45 : 23$$

$$92 \div 23 = 4 \text{ (1M)}$$

$$40 + 72 = 112 \text{ (1M)}$$

$$112 \times 4 = \mathbf{448} \text{ (1A)}$$

$$13. \quad \frac{2}{2}Y + \frac{4}{4}R = 330$$

$$\frac{1}{2}Y + \frac{1}{4}R = 90$$

$$\frac{2}{2}Y + \frac{2}{4}R = 90 \times 2 \quad (1M)$$

$$= 180$$

$$\frac{2}{4}R = 330 - 180 \quad (1M)$$

$$= 150$$

$$150 \div \frac{2}{4} = \mathbf{300} \quad (1M, 1A)$$

$$14. \quad \text{a)} \quad 30 \div 75 = \frac{2}{5} \quad (1M)$$

$$\frac{2}{5} \text{ h} = 24 \text{ min}$$

$$24 + 12 = 36$$

$$30 \div \frac{36}{60} = 50 \quad (1M)$$

$$\text{b)} \quad 50 \times \frac{2}{5} = \mathbf{20} \quad (1M, 1A)$$

$$15. \quad \frac{3}{4}S + \frac{5}{6}M + \frac{7}{8}D = 177$$

$$\frac{18}{24}S + \frac{20}{24}M + \frac{21}{24}D = 177$$

$$18 + 20 + 21 = 59 \quad (1m)$$

$$24 \times 3 = 72 \quad (1M)$$

$$177 \div 59 = 3 \quad (1M)$$

$$3 \times 72 = \mathbf{216} \quad (1A)$$

16. A : E
 4U : 3U
 -150 +80
 = 2P : 5P

$$20 \text{ units} - 750 = 6 \text{ units} + 160$$

$$20 \text{ units} - 6 \text{ units} = 750 + 160$$

$$14 \text{ units} = 910$$

$$1 \text{ unit} = 910 \div 14 \quad (1M)$$

$$= 65$$

a) $4 \text{ units} = 65 \times 4 \quad (1M, 1A)$

$$= \mathbf{260}$$

$$3 \text{ units} = 195 \times 3 \quad (1M)$$

$$= 195$$

b) $195 + 80 = \mathbf{275} \quad (1A)$

17. $11 \times 8 = 88$

$$6 \times 5 = 30$$

$$88 - 30 = 58 \quad (1M)$$

$$1682 \div 58 = 29$$

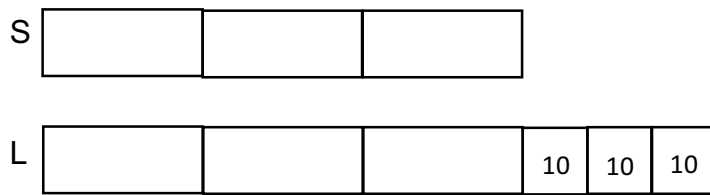
a) $17 \times 29 = \mathbf{493} \quad (1M, 1A)$

$$29 \times 6 = 174 \quad (1M)$$

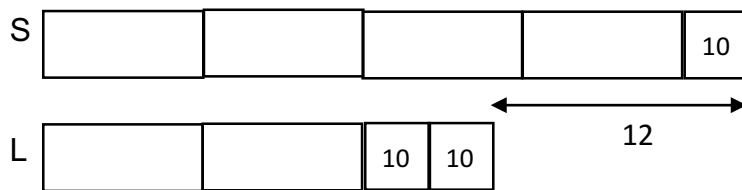
$$8 + 5 = 13$$

b) $174 \times 13 = \mathbf{2262} \quad (1A)$

18. Before



After



2 units $\rightarrow 10 + 10 + 12 - 10 = 22$ (2M)

1 unit $\rightarrow 22 \div 2 = 11$ (1M)

3 units $\rightarrow 11 \times 3 = \mathbf{33}$ (1M, 1A)