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Percentage Problems

1) 10% of 160 = $160 \div 10 = 16$

10% of 2300 = $2300 \div 10 = 230$

20% of 2300 = $230 \times 2 = 460$

10% of 450 = $450 \div 10 = 45$

30% of 450 = $45 \times 3 = 135$

(2 marks for all three correct.

Otherwise 1 mark for two correct.)

2) 10% of £360 = $£360 \div 10 = £36$

5% of £360 = $£36 \div 2 = £18$

(1 mark)

10% of 8200 km

= $8200 \text{ km} \div 10 = 820 \text{ km}$

5% of 8200 km

= $820 \text{ km} \div 2 = 410 \text{ km}$

15% of 8200 km

= $820 + 410 = 1230 \text{ km}$

(1 mark)

3) 50% of 240 = $240 \div 2 = 120$

10% of 240 = $240 \div 10 = 24$

5% of 240 = $24 \div 2 = 12$

65% of 240 = $120 + 24 + 12$

= **156** *(1 mark)*

4) He has used 45%, so there is
 $100\% - 45\% = 55\%$ left
 50% of 180 = $180 \div 2 = 90$
 10% of 180 = $180 \div 10 = 18$
 5% of 180 = $18 \div 2 = 9$
 55% of 180 = $90 + 9 = \mathbf{99}$
(1 mark)

5) 10% of 600 = $600 \div 10 = 60$
 20% of 600 = $60 \times 2 = 120$
 1% of 600 = $600 \div 100 = 6$
So $19\% = 20\% - 1\% = 120 - 6$
 $= \mathbf{114}$ (1 mark)

6) $\frac{162}{200} = \frac{81}{100} = \mathbf{81\%}$ (1 mark)

7) $23 + 27 = 50$
 $\frac{27}{50} = \frac{54}{100} = \mathbf{54\%}$ (1 mark)

8) Library:
 $13 + 12 = 25$ people in total
 $\frac{13}{25} = \frac{52}{100} = 52\%$ are children

Leisure centre:

$11 + 9 = 20$ people in total
 $\frac{11}{20} = \frac{55}{100} = 55\%$ are children

(1 mark for either

percentage correct)

$55\% > 52\%$. There is a higher
percentage of children at the
leisure centre. (1 mark)