Year 8 Prime Factors and Rounding – Developing

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Answers and worked solutions · 10 questions

A. Use prime factors and rounding

1. **HCF = 2 × 5 = 10; LCM = $2^2 \times 3 \times 5^3 = 1500$**

HCF: primes in both, smaller powers: 10

LCM: every prime, larger powers: 1500

2. **HCF = $2^2 = 4$; LCM = $2^2 \times 3^3 \times 7^2 = 5292$**

HCF: primes in both, smaller powers: 4

LCM: every prime, larger powers: 5292

3. **1.8**

$\approx (90 \times 0.08) \div 4$

$= 7.2 \div 4 = 1.8$

4. **1.35**

$\approx (90 \times 0.06) \div 4$

$= 5.4 \div 4 = 1.35$

5. **120 seconds**

$6 = 2 \times 3$, $8 = 2^3$, $10 = 2 \times 5$

LCM = $2^3 \times 3 \times 5 = 120$

6. **60 minutes**

$15 = 3 \times 5$, $20 = 2^2 \times 5$, $30 = 2 \times 3 \times 5$

LCM = $2^2 \times 3 \times 5 = 60$

7. **$2 \times 3^2 \times 5 \times 7$**

$630 = 2 \times 315$, $315 = 3 \times 105$, $105 = 3 \times 35$...

$630 = 2 \times 3^2 \times 5 \times 7$

8. **0.0005**

The first significant figure is the first non-zero digit

Keep 1, look at the next digit, then fill with zeros if needed

= 0.0005

9. **23 100**

$\div 0.01$ is the same as $\times 100$

= 23100

10. **HCF = 3; LCM = $2 \times 3^3 \times 5^3 = 6750$**

HCF: primes in both, smaller powers: 3

LCM: every prime, larger powers: 6750