Exercise walk-through

1.2.1 Fractions

AQA · GCSE · Mathematics

Foundation or Higher?

Skill	Foundation	Higher
integer indices, **standard form**	yes	yes
fractional indices, **surds**	—	yes
recurring decimals to fractions	—	yes
error intervals	yes	yes
bounds in calculations	—	yes

Terms with examples

Term	Example
prime factor	$60 = 2^2 \times 3 \times 5$
reciprocal	-4 and $-\frac{1}{4}$
surd	$\sqrt{12} = 2\sqrt{3}$
recurring decimal	$0.\dot{2}\dot{7} = \frac{3}{11}$
significant figure	$0.004786 \to 0.0048$

Check yourself

Question	Answer
HCF of 72 and 90?	18
$\frac{5}{6} - \frac{3}{4}$?	$\frac{1}{12}$
$27^{2/3}$?	9
3.6 kg to 1 d.p.: interval?	$3.55 \leq m < 3.65$
Original if 20% off gives 64?	80

Exercises 2.1–2.3

2.1 (Foundation) Find $1\frac{1}{2} - \frac{3}{4}$.

2.2 (Foundation) Find $\left(-\frac{2}{3}\right) \times \left(\frac{9}{4}\right)$.

2.3 (Foundation) Find $\left(\frac{3}{4}\right) \div \left(\frac{5}{8}\right)$.

Exercises 2.1–2.3

2.1 (Foundation) Find $1\frac{1}{2} - \frac{3}{4}$.

2.1 $6/4 - 3/4 = 3/4 = 0.75$.

2.2 (Foundation) Find $(-2/3) \times (9/4)$.

2.2 $(-2 \times 9)/(3 \times 4) = -18/12 = -1.5$.

2.3 (Foundation) Find $(3/4) \div (5/8)$.

2.3 Multiply by $8/5$: $24/20 = 6/5 = 1.2$.

Exercise 3.1

3.1 Decide whether this claim is true. Justify with a concrete calculation or counterexample: To add two fractions, add their numerators and add their denominators.

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3.1 False. $1/2+1/2=1$, while $(1+1)/(2+2)=1/2$. Use a common denominator and add the adjusted numerators.

Local review guidance: show the chosen method; give the checked result; explain the condition or failed shortcut. This is authored classroom guidance.