Year 9 Fractions and Decimals – Developing

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Answers and worked solutions · 10 questions

A. Use fractions and decimals

1. **4/15**

Order of operations, brackets first: 1/2 + 2 = 5/2
= 4/15

2. **4 1/10**

Order of operations, × before +: 7/4 × 2 = 7/2
= 4 1/10

3. **estimate 12; exact 14 7/8**

4 3/8 ≈ 4 and 3 2/5 ≈ 3
Estimate: 4 × 3 = 12
Exact: 35/8 × 17/5 = 14 7/8

4. **estimate 3.2; exact 3.612**

8.4 ≈ 8 and 0.43 ≈ 0.4
Estimate: 8 × 0.4 = 3.2
Exact: 3.612, close to the estimate

5. **6**

= (5.6 + 4.4) × 3/5
= 10 × 3/5 = 6

6. **3**

= (5.1 + 4.9) × 3/10
= 10 × 3/10 = 3

7. **10 pieces**

6 2/3 ÷ 2/3 = 20/3 × 3/2
= 10

8. **751 km**

Distance = 37.55 ÷ 0.05
= 3755 ÷ 5 = 751 km

9. **20 4/5**

Improper fractions: 13/3 × 24/5
Cancel common factors, then multiply: = 104/5
= 20 4/5

10. **40 = $2^3 \times 5$ has only 2s and 5s as prime factors, so 3/40 terminates: 3/40 = 0.075.**

Error: the denominator does not have to be a power of 10
40 = $2^3 \times 5$
3/40 = 0.075