Year 8 Fractions and Recurring Decimals – Foundation

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Answers and worked solutions · 10 questions

A. Fraction skills

1. 0.111... (the 1 recurs)

Divide: 1 ÷ 9
The remainders repeat, so the digits 1 recur
0.111...

2. 0.1666... (the 6 recurs)

Divide: 1 ÷ 6
The remainders repeat, so the digits 6 recur
0.1666...

3. 3 11/12

Estimate: about 5 − 1 = 4
As improper fractions: 31/6 − 5/4
= 47/12 = 3 11/12

4. 4 7/12

Estimate: about 6 − 2 = 4
As improper fractions: 19/3 − 7/4
= 55/12 = 4 7/12

5. 16 1/4

5 × 3 = 15 and 5 × 1/4 = 1 1/4
Total: 16 1/4

6. 38 1/4

6 × 6 = 36 and 6 × 3/8 = 2 1/4
Total: 38 1/4

7. 9

Dividing by 2/3 is the same as multiplying by 3/2
6 × 3/2 = 9

8. 10

Dividing by 1/2 is the same as multiplying by 2
5 × 2 = 10

9. 4

Dividing by 3/4 is the same as multiplying by 4/3
3 × 4/3 = 4

10. 3/7

In its simplest form, a fraction is a terminating decimal only if its denominator has no prime factors except 2 and 5
9/40: $2^3 \times 5$; 3/8: 2^3; 11/16: 2^4; 3/7: 7