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# Converting Fractions to Decimals and Percentages – Answers

Year 6 Challenge – 11+ Stretch

Answer key – for the tutor or parent

**Method 1** *Make the denominator 1000*
7/40 = 175/1000 (× 25)
175/1000 = **0.175 = 17.5%**

**Method 2** *Short division*
5/16 = 5 ÷ 16 = **0.3125 = 31.25%**
Recurring: 2/3 = 2 ÷ 3 = 0.666…
2/3 = **66.7% (1 d.p.)**

| | **A** Fractions to decimals | | **B** Fractions to percentages | | **C** To fractions (simplest form) |
|---|---|---|---|---|---|
| 1. | 3/16 = **0.1875** | 1. | 3/40 = **7.5%** | 1. | 0.36 = **9/25** |
| 2. | 7/40 = **0.175** | 2. | 7/16 = **43.75%** | 2. | 0.875 = **7/8** |
| 3. | 9/125 = **0.072** | 3. | 1/6 = **16.7%** (1 d.p.) | 3. | 12.5% = **1/8** |
| 4. | 11/16 = **0.6875** | 4. | 33/150 = **22%** | 4. | 0.045 = **9/200** |
| 5. | 5/6 = **0.833** (3 d.p.) | 5. | 11/8 = **137.5%** | 5. | 2.15 = **2 3/20** |
| 6. | 13/80 = **0.1625** | 6. | 4/9 = **44.4%** (1 d.p.) | 6. | 0.0625 = **1/16** |
| 7. | 2/9 = **0.222** (3 d.p.) | 7. | 9/250 = **3.6%** | 7. | 37.5% = **3/8** |
| 8. | 27/200 = **0.135** | 8. | 2 1/5 = **220%** | 8. | 0.32 = **8/25** |
| 9. | 3 5/8 = **3.625** | 9. | 35/56 = **62.5%** | 9. | 175% = **1 3/4** |
| 10. | 21/28 = **0.75** | 10. | 1/125 = **0.8%** | 10. | 0.666… = **2/3** |
| 11. | 7/12 = **0.583** (3 d.p.) | 11. | 5/12 = **41.7%** (1 d.p.) | 11. | 2.5% = **1/40** |
| 12. | 17/250 = **0.068** | 12. | 19/400 = **4.75%** | 12. | 0.1875 = **3/16** |

## BetterChallenge:

11+ Entry Style

a) 7/20 (0.35), 37% (0.37), 3/8 (0.375), 0.38, 0.4

b) 1/15. It equals 0.0666… (about 6.7%); all the others equal 0.15 (15%).

c) 2/5 = 0.4, so halfway is 0.35 = 7/20 = 35%

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**Solve these 11+ style questions – Answers**

1. Football 90, netball 48, swimming 72. 90 + 48 + 72 = 210, so 240 − 210 = 30 pupils chose tennis.
2. 5/4 (1.25), 1.2, 1.19, 118% (1.18), 1 1/6 (1.166…)
3. Maths 85%, English 84%, Science 83%. Best: Maths, by 2 percentage points (85% − 83%).
4. A: £60. B: £56. C: £65 − £6.50 = £58.50. Shop B is cheapest, £2.50 cheaper than the next cheapest (Shop C).
5. 3/4 = 75%. 75% − 20% = 55% of the tank is 33 litres, so 1% = 0.6 litres and 100% = 60 litres.
6. 7 ÷ 11 = 0.636363… (the digits 6 and 3 repeat for ever). 7/11 = 63.6% (1 d.p.)
7. Son £120, leaving £240. Daughter 25% of £240 = £60, leaving £180. £180/£360 = 1/2 = 50%.
8. 5/8 (= 0.625 = 62.5%). 4/8 = 0.5 is too small and 6/8 = 0.75 is too big.
9. 1/8 means 1 ÷ 8, not 8 tenths (0.8 = 8/10 = 4/5). 1/8 = 0.125 = 12.5%.
10. a) Girls = 55% of 600 = 330. 2/11 of 330 = 60 girls. b) 60/600 = 1/10 = 10%.