Fractions and decimals

- Don't use a calculator on these questions
- Write your answers on separate paper and show some kind of method!

1) Find $\frac{1}{3}$ of 27

2) What is $\frac{2}{5}$ of 45?

3) Find $\frac{1}{3}+\frac{1}{2}$

4) What is $2\frac{1}{2}+3\frac{1}{4}$? Hint: use the fraction wall

5) Calculate $7\frac{3}{4}-4\frac{1}{2}$

6) Work out $2\frac{1}{2}\times 5\frac{2}{3}$

7) Find $3\frac{1}{7}\times 2\frac{1}{2}$

8) A till receipt shows £1.56, 75p, £1.47, £15, 3p and 47p. What change should be given from a £20 note?

9) Find 12.45 x 3.14

10) Calculate 17.6 ÷ 0.25

11) Work out 12.56 ÷ 1.5

12) Someone is paid £7.50 per hour for 37.5 hours one week. How much is their gross pay for that week?

13) *Estimate* the result of $3.142\times 4.5\times 4.5$

14) *Estimate* an answer to the following calculation $\frac{\frac{3}{4}\times 12.5}{96.71-78.23}$

Answers

- Marks shown as A1M1, total is 32 marks
- We are looking for sensible *methods* here, students who do not show any systematic methods should be gently challenged

1) 9 A1

2) 18 (45 ÷ 5 × 2 is what I'm expecting, $\frac{2}{5}\times\frac{45}{1}$ OK) M1A1

3) $\frac{1}{3}+\frac{1}{2}=\frac{2}{6}+\frac{3}{6}=\frac{5}{6}$ M1(if LCD seen) A1

4) $2\frac{1}{2}+3\frac{1}{4}=5+\frac{1}{2}+\frac{1}{4}=5+\frac{2}{4}+\frac{1}{4}=5\frac{3}{4}$ M1A1

5) I usually teach the 'everything top heavy' way of doing subtraction as borrowing causes distress. Any valid method gets marks.

$7\frac{3}{4}-4\frac{1}{2}=\frac{31}{4}-\frac{9}{2}=\frac{31}{4}-\frac{18}{4}=\frac{13}{4}=3\frac{1}{4}$

M1 for top heavy or borrow, M1 for LCD, A1 Answer

6) $2\frac{1}{2}\times5\frac{2}{3}=\frac{5}{2}\times\frac{17}{3}=\frac{85}{6}=14\frac{1}{6}$ M2A1

7) $3\frac{1}{7}\times2\frac{1}{2}=\frac{22}{7}\times\frac{5}{2}=\frac{11}{7}\times5=\frac{55}{7}=7\frac{6}{7}$ (can cancel at end) M2A1

8) £0.72 or 72p but *not* £0.72p! M1A1

9) 39.093 M1A1

10) 70.4 M1 for x100 A1 for answer

11) 8.373^{r} M1 for x10, M1 for long div, A1 for answer

12) £281.25 M1A1

13) 3 x 5 x 5 = 75 (or 80) Any sensible estimate M1A1

14) $\frac{\frac{3}{4}\times12.5}{96.71-78.23}\approx\left[\frac{\frac{3}{4}\times12}{(98-78)}\right]=\frac{9}{20}\approx\frac{1}{2}$

any sensible estimate M1 with correct use of Bodmas M1 and an answer A1