

# Numeracy Skills

LLE – Mathematics and Statistics

## Rounding

A farmer asked me to round up their 68 sheep. I said 70.

1. Round each of the following numbers to the given accuracy.

(a) 5.8713 to 2 decimal places (d.p.)

(b) 15.1119 to 2 d.p.

(c) 18.7461 to 2 d.p.

(d) 0.878 to 2 d.p.

(e) 16.74991 to 1 d.p.

(f) 4.06597 to 3 d.p.

(g) 14.9811 to 1 d.p.

2. Round each of the following numbers to the given accuracy.

(a) 14.583 to 3 significant figures (s.f.)

(b) 4.14448 to 3 s.f.

(c) 654329 to 3 s.f.

(d) 478.3 to 2 s.f.

(e) 56.39 to 2 s.f.

(f) 0.00467 to 1 s.f.

(g) 498.9 to 2 s.f.

# Fractions

1. Simplify the following fractions to their lowest form.

(a)  $\frac{6}{10}$

(b)  $\frac{12}{24}$

(c)  $\frac{15}{24}$

(d)  $\frac{81}{99}$

2. Evaluate, without using a calculator, giving your answer in its simplest form.

(a)  $\frac{4}{5} \times \frac{2}{3}$

(b)  $\frac{3}{4} \times \frac{2}{9}$

(c)  $\frac{2}{7} \times \frac{5}{12}$

(d)  $\frac{5}{8} \div \frac{3}{4}$

(e)  $\frac{2}{5} \div \frac{7}{10}$

(f)  $\frac{5}{8} \div \frac{2}{5}$

(g)  $\frac{5}{6} \times \frac{2}{5} \times \frac{9}{10}$

3. Evaluate, without using a calculator, giving your answer in its simplest form.

(a)  $\frac{2}{5} + \frac{1}{5}$

(b)  $\frac{7}{10} - \frac{3}{10}$

(c)  $\frac{3}{8} + \frac{1}{4}$

(d)  $\frac{5}{12} + \frac{5}{18}$

(e)  $\frac{9}{10} - \frac{4}{15}$

## Ratio

1. The ratio of red counters to blue counters is 3:5. Given there are 96 counters, how many of the counters are blue?
2. The ratio of left-handed people to right-handed people in a room is 2:7. Given there are 28 right-handed people, how many people are in the room?
3. In a workforce there are 1.5 times as many full-time employees as part time employees. Given that there are 120 people employed, how many of them are full-time?

## Percentages

1. Find the following values:
  - (a) 45% of £20
  - (b) 75% of £150
  - (c) 28% of £25
  - (d) 140% of £60
2. A company increases people's wages.

Wage	Percentage Pay Rise
up to £20000	8 %
£20000 to £34999	5 %
over £35000	3 %

Find the new wage of the following employees:

- (a) Person A £31000
- (b) Person B £18000

(c) Person C £44000

3. A store has a sale where there is 15 % off everything. If an item cost £84 before the sale, what is the price now?
4. Below is a list of sale prices after a given discount has been applied. Work out the price before the sale. Check your answers by applying the discount to your calculated original price.

Original Price	Discount	Sale Price
	50 %	£10
	20 %	£20
	15 %	£34
	5 %	£41.80

## Standard Form

1. Write the following numbers in standard form (scientific notation).

- (a) 450000
- (b) 2500000
- (c) 14500
- (d) 25 million
- (e) 0.00056
- (f) 0.003
- (g) 0.00000012

2. Write the following numbers out in full.

- (a)  $2.5 \times 10^4$
- (b)  $1.25 \times 10^5$
- (c)  $1.6 \times 10^{-3}$