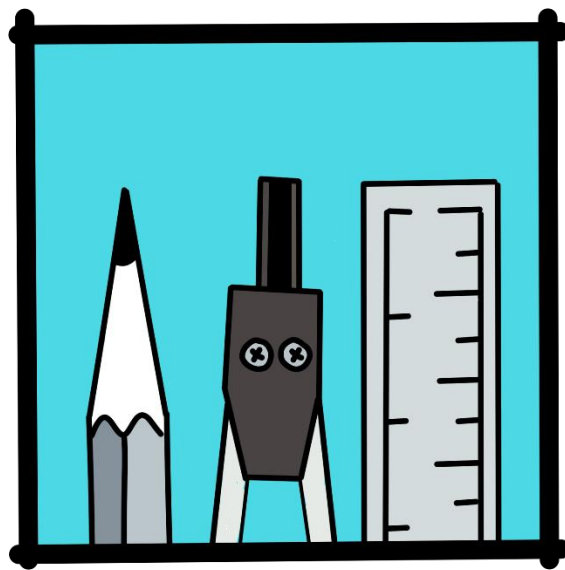




Knox Academy

Mathematics Department



PERSONAL FINANCE

ESSENTIAL NUMERACY SKILLS

SKILL 1: Decimals



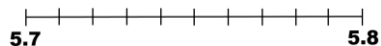
Need help? – you may [find these video tutorials](#) useful.

Exercise 1: Ordering Decimals

- Put the numbers in order from smallest to largest:
 - 5.7, 5.5, 5.9, 5.4, 5.8
 - 3.6, 3.8, 13.2, 0.8, 2.1
 - 9.1, 1.9, 4.4, 2.8, 8.6
 - 9.23, 9.15, 9.34, 9.19, 9.25, 9.12
 - 0.53, 0.48, 0.59, 0.44, 1.11, 0.098
 - 1.79, 2.44, 1.65, 2.54, 1.98, 3.11
 - 41.9, 41.82, 41.78, 41.8, 41.88, 41.86
 - 11.62, 0.41, 0.8, 2.27, 24.7, 0.63
- Put the numbers in order from smallest to largest:
 - 0.2, 0.08, 0.13, 0.6, 0.29
 - 5.35, 5.1, 5.09, 5.28, 5.3, 5.11
 - 80.6, 86.1, 80.49, 80.68, 86, 86.09
 - 3.24, 3.3, 3.125, 3.2, 3.199, 3.18
 - 0.28, 0.028, 0.9, 0.708, 0.8
 - 5.81, 5.49, 5.9, 5.007, 5.1, 5.107
 - 20.083, 20.08, 20.009, 20.56, 20.3
 - 0.423, 0.057, 0.526, 0.43, 0.5, 0.6
 - £6.74, £10, £1.99, £7, £4.30, £1
 - 60p, £1, £0.07, 32p, £2.65, £0.62, £10
- Which number is the largest?
 - 7.2 or 7.6
 - 0.6 or 0.5
 - 3.2 or 3.15
 - 4.21 or 4.9
 - 8.088 or 8.0851
 - 9.19 or 9.109
 - 3.104 or 3.12
 - 40.08 or 400.8
- The price of seven takeaways are listed below.
£14.87, £21.70, £11.78, £11.80, £11.88, £12.86, £11.70
 - Arrange the prices in order from smallest to largest.
 - Write down total price of all the takeaways.
 - What is the average price of a takeaway?
- The length of time that it takes to complete a Rubik's cube are below:
0.5 hours, 1.75 hours, 60 minutes, 0.25 hours, 110 minutes
2 hours, 2.5 hours, 180 minutes, 32 minutes, 2.25 hours
 - Arrange the times in order, from quickest to longest.
 - How many Rubik's cubes were solved within the hour?
 - How many Rubik's cubes took 3 hours or longer to solve?

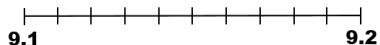
Exercise 2: Rounding to Decimal Places

1. a) (i) Copy and put 5.75 on the number line:



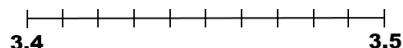
- (ii) Round to 1 decimal place.

- c) (i) Copy and put 9.17 on the number line:



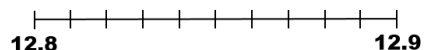
- (ii) Round to 1 decimal place.

- b) (i) Copy and put 3.41 on the number line:



- (ii) Round to 1 decimal place.

- d) (i) Copy and put 12.84 on the number line:

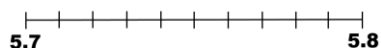


- (ii) Round to 1 decimal place.

2. Round each number to 1 decimal place:

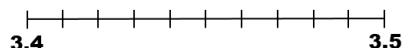
- a) 6.82 b) 4.19 c) 21.63 d) 10.51 e) 48.14
f) 3.18 g) 0.85 h) 10.43 i) 9.89 j) 62.99

3. a) (i) Copy and put 5.782 on the number line:



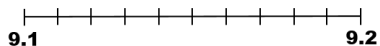
- (ii) Round to 1 decimal place.

- b) (i) Copy and put 3.425 on the number line:



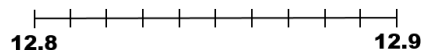
- (ii) Round to 1 decimal place.

- c) (i) Copy and put 9.148 on the number line:



- (ii) Round to 1 decimal place.

- d) (i) Copy and put 12.8631 on the number line:

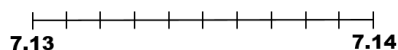


- (ii) Round to 1 decimal place.

4. Round each number to 1 decimal place:

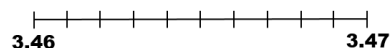
- a) 10.191 b) 5.246 c) 8.087 d) 0.555 e) 39.831
f) 7.2914 g) 93.1352 h) 38.8337 i) 1.537189 j) 0.62599

5. a) (i) Copy and put 7.133 on the number line:



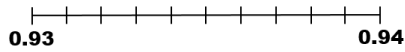
- (ii) Round to 2 decimal place.

- b) (i) Copy and put 3.469 on the number line:



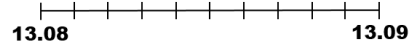
- (ii) Round to 2 decimal place.

c) (i) Copy and put 0.935 on the number line:



(ii) Round to 2 decimal place.

d) (i) Copy and put 13.0849 on the number line:



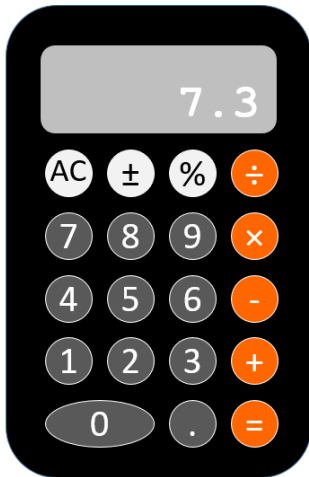
(ii) Round to 2 decimal place.

6. Round each number to 2 decimal place:

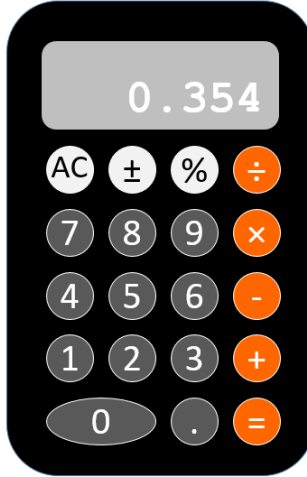
- | | | | | |
|------------|-------------|-------------|--------------|---------------|
| a) 5.667 | b) 39.255 | c) 2.774 | d) 74.576 | e) 43.547 |
| f) 18.615 | g) 9.926 | h) 61.222 | i) 6.044 | j) 0.958 |
| k) 35.2628 | l) 3.2501 | m) 1.6506 | n) 91.5742 | o) 45.6973 |
| p) 6.71436 | q) 16.56679 | r) 52.61201 | s) 0.0832504 | t) 7.43299048 |

7. Express these numbers as money, in pounds:

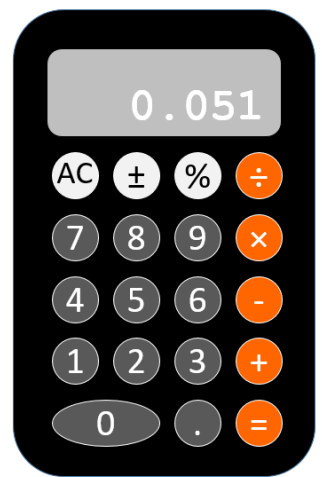
a)



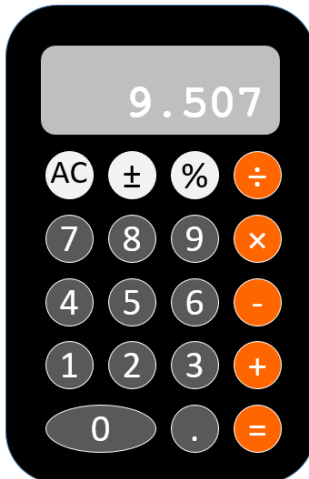
b)



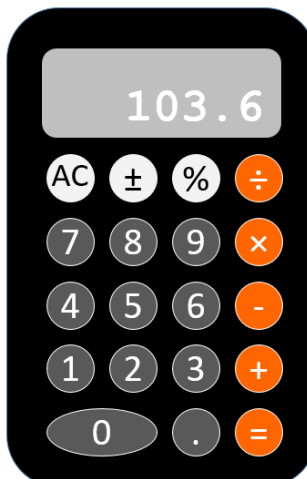
c)



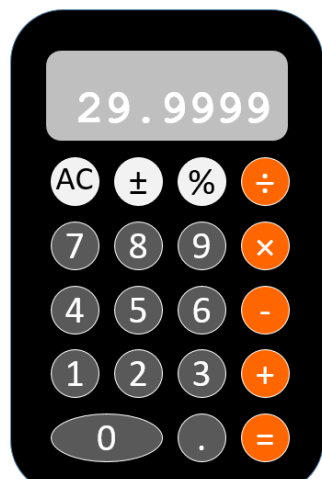
d)



e)



f)



Exercise 3: Adding and Subtracting Decimals

1. Calculate:
 - a) $£8.56 + £5.72$
 - b) $£4.91 + £2.12$
 - c) $£8.37 + £9.53$
 - d) $£7.81 + £8.07$
 - e) $£4.14 + £7.86$
 - f) $£9.89 + £3.49$
 - g) $£7.70 + £4.53$
 - h) $£205.96 + £199.06$
 - i) $£5.21 + £8.94$
 - j) $£17 + £9.82$
 - k) $£250.38 + £239.62$

2. Calculate:
 - a) $£8.22 - £1.27$
 - b) $£7.93 - £1.79$
 - c) $£9.83 - £6.13$
 - d) $£1.87 - £0.55$
 - e) $£7 - £5.69$
 - f) $£6.87 - £6.37$
 - g) $£9.20 - £8.31$
 - h) $£52.70 - £42.90$
 - i) $£1607.21 - £108.51$
 - j) $£37.02 - £29.82$
 - k) $£3.92 + £2.78 - £4.22$

3. Penny buys a magazine that costs £6.71 and pen that costs £2.79.
 - a) How much did she spend?
 - b) She paid for it with a £20 note.
How much change would she get?

4. Sam is saving money to buy a new football shirt.
In May, they save £12.28
In June, they save £9.45
In July, they save £14.07
 - a) How much money has Sam saved?
 - b) A new football shirt costs £50.
Can Sam afford the shirt? Explain your answer.

5. Rosie records how far she swims each day, for a week.
Monday, she swims 1.9 km
Tuesday, she swims 1.875 km
Wednesday, she swims 2.01 km
Thursday, she swims 0.89 km
Friday, she swims 1.78 km
Saturday, she swims 1.22 km
Sunday, she swims 2.4 km

Calculate how far Rosie has swam in the week.
Round your answer to the nearest whole number.

6. Find the missing numbers:
 - a) $£8.27 + \square = £11$
 - b) $£13.08 - \square = £9.38$

Exercise 4: Multiply and Dividing Decimals

- Calculate:
(a) $£1.25 \times 8$ (b) $5 \times £4.12$ (c) $£12.80 \times 3$ (d) $£7.62 \times 7$
(e) $£2.63 \times 15$ (f) $£0.38 \times 21$ (g) $£14.20 \times 10$ (h) $13 \times £12.83$
(i) $£9.34 \times 1.5$ (j) $0.5 \times £16.42$
- Calculate:
a) $£3.96 \div 6$ b) $£0.75 \div 5$ c) $£85.60 \div 4$ d) $£3.40 \div 5$
e) $£3.30 \div 2$ f) $£24.30 \div 5$ g) $£21.36 \div 6$ h) $£2.38 \div 7$
i) $£12.82 \div 4$ j) $£7.42 \div 8$ k) $£34.50 \div 15$ l) $£8.66 \div 5$
- A latte costs $£4.12$.
How much would 15 lattes cost?
- Tickets at East Blinks Petting Zoo has the following costs:

Adults: £14.60
Children: £7.52

How much would cost for 2 adults and 5 children?
- Paving slab cost $£4.20$ each.
Robbie needs 16 slabs, how much will this cost?
- 6 cupcakes cost $£19.50$.
How much does 1 cupcake cost?
- Four friends win $£154.50$ at the bingo.
How much money will they each get? Give a reason for your answer.
- Alex needs to paint their room.
They need enough paint to cover 196.3 m^2 .
One tin of paint covers 12 m^2 .
How many tins will they need?
- It cost 144p per litre of petrol.
Fran spent $£51.83$ filling up the tank of her car.
How many litres of petrol did it take to fill up her car?
Round your answer to two decimal places.

SKILL 2: Percentages



Need help? – you may find [these video tutorials](#) useful.

Exercise 1: Percentage of an Amount

- Calculate:
 - 15% of £60
 - 8% of £205
 - 35% of £135
 - 18% of £520
 - 51% of £500
 - 13% of £18
 - 91% of £860
 - 7% of £36
 - 75% of £1450
 - 66% of £9.40
 - 8.2% of £5400
 - 11% of £30
- Calculate:
 - 87% of £5.40
 - 33% of £6.10
 - 24.5% of £30
 - 45.9% of £32
 - 0.6% of £440
 - 3.125% of £45
 - 1.5% of £52
 - 85.3% of £190
- Increase £500 by 3%
 - Decrease £800 by 7%
 - Decrease £120 by 5%
 - Increase £920 by 8%
 - Decrease £380 by 4.5%
 - Increase £170 by 6.2%
 - Decrease £2090 by 11%
 - Increase £60 by 4.3%
 - Increase £50 by 9.8%
 - Increase £71 by 110%
 - Decrease £25 by 85%
 - Increase £99 by 103%
- A smart watch costs £200.
After the sale it costs 90% of the original price.
How much is the smart watch after the sale?
- Which is larger:
20% of £7 or 7% of £20?
- Freddie spends £40 a month on his mobile phone tariff.
By changing provider, Freddie can save 13%.
 - How much would Freddie save?
 - How much is the new mobile phone tariff?
- A new PlayStation costs £509.
PC Universe offers a 15% discount.
How much is the PlayStation after the discount?
- Gas bills are set to increase by 9%.
Suzy spends £72 a month on Gas.
 - How much is her bill going to increase by?
 - How much is her new gas bill?
- The price of house in Haddington increased by 48% in 2020.
Cole bought their house for £285 000 in 2019.
What is the new value of Cole's house in 2020?

SKILL 3: Foreign Currency



Need help? – you may find [these video tutorials](#) useful.

Exercise 1: Pounds to Foreign Currency

Currency	Exchange Rate (£1)
US Dollar	£1 → 1.24 dollars (US)
Euro	£1 → 1.16 euros
Indian Rupee	£1 → 102.34 rupee
Australian Dollar	£1 → 1.91 dollars (AUS)
Swiss Franc	£1 → 1.13 francs

- Convert the following amounts of money into US dollars:
 - £100
 - £5000
 - £350
 - £420
 - £65
 - £10.50
 - £1284
 - £301.70
- Convert the following amounts of money into euros:
 - £300
 - £2000
 - £850
 - £510
 - £25
 - £6.50
 - £911
 - £463.09
- Convert the following amounts of money into Indian rupees:
 - £700
 - £3000
 - £1100
 - £630
 - £45
 - £8.50
 - £527
 - £289.26
- If a new car costs £24 000 in England.
How much would it cost in Switzerland?
- A DVD costs £9.99 in Scotland.
How much would it cost in Australia?
- A prom dress costs £145 in Northern Ireland.
How much would it cost in India?
- Neil is going to Italy.
He plans to convert £400 into euros.
 - How many euros will he have?
When in Italy he spent 360 euros.
 - How many Euros are left?
- Robert wants to exchange £1200 into US dollars.
Sun Cash are offering £1 → 1.24 dollars (US).
Jet-Set are offering £1 → 1.51 dollars (US) but charge £150 to convert the money.
Who should Robert use to get his travel money?
Explain your answer.

Exercise 2: Foreign Currency to Pounds

Currency	Exchange Rate (£1)
US Dollar	£1 → 1.24 dollars (US)
Euro	£1 → 1.16 euros
Indian Rupee	£1 → 102.34 rupee
Australian Dollar	£1 → 1.91 dollars (AUS)
Swiss Franc	£1 → 1.13 francs

1. Convert the following amounts of money into pounds.

Give your answer to the nearest penny.

- a) 369 dollar (US) b) 644 dollars (AUS) c) 9360 euros d) 164900 rupee
 e) 562.50 francs f) 1168.50 dollars (US) g) 24472 dollars (AUS) h) 4.10 euros
 i) 181.39 rupee j) 466 euros k) 63 rupee l) 65.77 francs

2. A new TV in Italy costs 279 euros.
How much is the TV in Pounds Sterling?

3. Below are the prices of the same laptop in different countries.

USA	Scotland	Switzerland	India
531 dollars (US)	£500	1018 francs	66800 rupee

In which countries is the car the best value?

4. Mary is going to Switzerland on holiday. She converts £600 into Swiss Francs.
When on her holiday she spends 425 francs.
How much in Pounds Sterling, will Mary get if she converts her money back to Pounds Sterling?
5. Neil is going to Nashville on holiday. He converts £840 into US dollars.
When on his holiday he spends 982 dollars (US).
How much in Pounds Sterling, will Neil get if he converts his money back to Pounds Sterling?
6. Bill saved 1700 Australian Dollars for his holiday in Melbourne.
His holiday is 5 weeks long and he plans to spend 150 Australian Dollars a week on food.
He has planned the following activities:
- | | |
|----------------------------------|-------------------|
| Sydney Harbour Cruise with Lunch | 160 dollars (AUS) |
| Full Uluru Base Walk | 210 dollars (AUS) |
| Great Barrier Reef Day Cruise | 302 dollars (AUS) |
- When he got back to the UK he converted his Australian Dollars to Pounds Sterling at the post office.
The post office would only change money in multiples of 10 Australian Dollars.
How much, in Pounds Sterling, will Bill get if he converts his remaining money at the post office?
Give your answer to the nearest penny.

SKILL 4: Proportion



Need help? – you may find [these video tutorials](#) useful.

Exercise 1: Direct Proportion

- Which is better value for money:
 - 1 cupcake at £2.50 or 6 cupcakes for £10
 - 1 pint of milk £2 or 3 pints for £8
 - 12 eggs for £2.85 or 6 eggs for £1.80
 - 1.5 kg of flour costs 80p or 500g of flour £1.30
 - 80g of chocolate costs £1.25 or 170g for £2.40
 - 150ml of juice costs £1.29 or 2L of juice costs £1.70
 - 130g of crisps cost £1.50 or 230g of crisps for £2.50
- The information appears on a box of cereal bars.

Nutritional Information	
Per 100 g	
Energy	345 kcal
Carbohydrates	40.7 g
Fibre	25.3 g
Protein	4.8 g

How much protein is in a 25 g cereal bar?

- Rosie makes his own almond milk.
The amount of milk she can make is proportional to the amount of almonds she uses.
She uses 45g of almonds to make 500 millilitres of milk.
How much milk can she make with 80 g of almonds?
- On the “Plastic Fantastic” website, the price paid for recycled plastic is proportional to its weight.
Liam sells used plastic to this website.
He is paid £13 for 300 grams of plastic.
How much is he paid for 650 grams of plastic?
- In Loop’s Supermarket, a 1.5 litre carton of apple juice costs £2.13.
In Visda’s Supermarket, a 1 litre carton of apple juice normally costs £2.30.
Visda’s Supermarket has a special offer of **buy two get one free**.
Which supermarket offers the better deal for 6 litres of apple juice?
Give a reason for your answer.

6. A recipe lists the ingredients needed to make 3 pizza doughs.

Ingredients for 2 pizza doughs	
1 kg strong white flour	
1 tsp salt	
13.5 g dried yeast	
1 tbsp sugar	
4 tbsp olive oil	

How many grams of yeast would be needed to make 7 pizza doughs?

7. Neil burns off 160 calories when he runs for 20 minutes.
For how many minutes would he need to run to burn off 400 calories?
8. Bill is going to cook a 3.5 kg turkey.
He uses this rule to calculate the cooking time:
“Cook for 40 minutes per kilogram and then add an extra 25 minutes.”
What is the latest time that he should begin cooking it?
9. A recipe lists the ingredients needed to make 8 brownies.

Ingredients for 8 brownies	
Butter	170 g
Sugar	250 g
Eggs	2
Plain flour	100 g
Cocoa powder	30 g
Salt	1 tsp
Dark chocolate	125 g
Chocolate chips	300 g

How many grams of flour would be needed to make 30 brownies?

10. A plumber charges £20 for being called out to a job, plus £12 **for each 15 minutes** he takes to do the job.
How much does he charge for a job which takes 2 hours?
11. The burning time, in minutes, of a candle varies directly as its height, in millimetres.
A candle with a height of 75 millimetres burns for 180 minutes.
(a) What is the burning time of a 40 millimetre candle?
(b) A candle burns for $2\frac{1}{2}$ hours.
What is the height of this candle?
12. The number of bricks needed to build a wall is proportional to the area of the wall.
A wall with an area of 4 square metres needs 260 bricks.
How many bricks are needed for a wall with an area of 7 square metres?