

# Reasoning and Problem Solving

## Step 3: Using Rounding to Estimate Money

### National Curriculum Objectives:

Mathematics Year 4: (4M1) [Compare different measures, including money in pounds and pence](#)

Mathematics Year 4: (4M2) [Estimate different measures, including money in pounds and pence](#)

Mathematics Year 4: (4M9) [Calculate different measures, including money in pounds and pence](#)

### Differentiation:

Questions 1, 4 and 7 (Reasoning)

**Developing** Explain what amount the arrow could be pointing to on the blank number line using £.p values. Both end values given.

**Expected** Explain what amount the arrow could be pointing to on the blank number line using 3-digit values. Both end values given.

**Greater Depth** Explain what amount the arrow could be pointing to on the blank number line using 4-digit values. The number line spans more than £1. One end value given.

Questions 2, 5 and 8 (Reasoning)

**Developing** Explain whether you agree or disagree with the rounding statement using £.p values.

**Expected** Explain whether you agree or disagree with the rounding statement using 3-digit values.

**Greater Depth** Explain whether you agree or disagree with the rounding statement using 4-digit values.

Questions 3, 6 and 9 (Problem Solving)

**Developing** Use the 3 digit cards to make amounts which round to the given £.p value.

**Expected** Use the 4 digit cards to make amounts which round to the given 3-digit value.

**Greater Depth** Use the 5 digit cards to make amounts which round to the given 4-digit value.

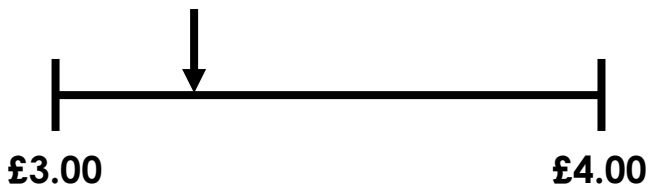
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## Using Rounding to Estimate Money

## Using Rounding to Estimate Money

1a. What amount could the arrow be pointing to? Explain why.



R

1b. What amount could the arrow be pointing to? Explain why.



R

2a. Manha has:



She says,



My amount rounds to  
£6.00.

Do you agree? Explain why.



R

2b. Tyla has:



He says,



My amount rounds to  
£9.00.

Do you agree? Explain why.



R

3a. Marley has these digit cards:

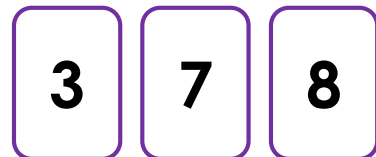


Find all the amounts she can make which round to £5.00.



PS

3b. Arya has these digit cards:



Find all the amounts she can make which round to £8.00.

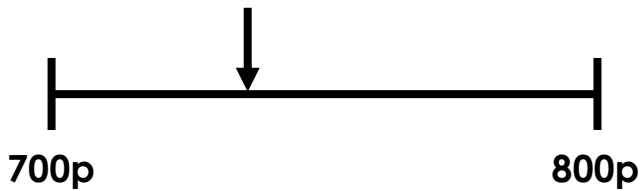


PS

## Using Rounding to Estimate Money

## Using Rounding to Estimate Money

4a. What amount could the arrow be pointing to? Explain why.



R

4b. What amount could the arrow be pointing to? Explain why.



R

5a. Katie has:



She says,



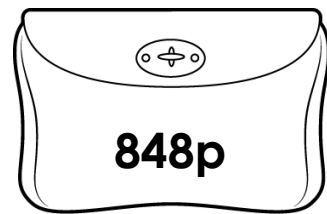
My amount rounds to  
£9.

Do you agree? Explain why.



R

5b. Habib has:



He says,



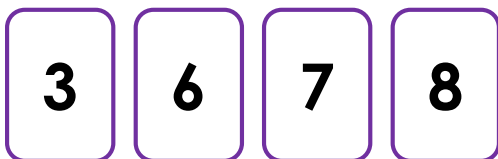
My amount rounds to  
£7.

Do you agree? Explain why.



R

6a. Theo has these digit cards:

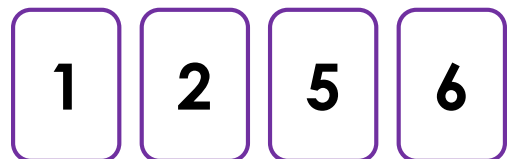


Find all the amounts he can make which round to £7.00.



PS

6b. May has these digit cards:



Find all the amounts she can make which round to 600p.

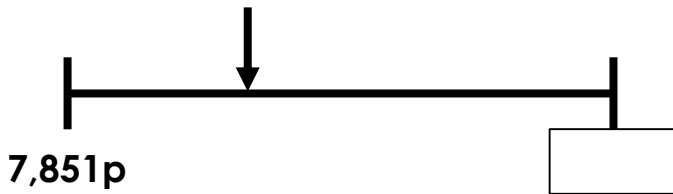


PS

## Using Rounding to Estimate Money

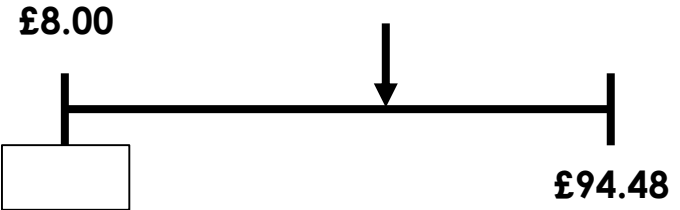
## Using Rounding to Estimate Money

7a. Choose your own 4-digit values below £100 to complete the number line. Make sure the number line spans more than £1. What price could the arrow be pointing to? Explain why.



R

7b. Choose your own 4-digit values below £100 to complete the number line. Make sure the number line spans more than £1. What price could the arrow be pointing to? Explain why.



R

8a. Salma has:



She says,



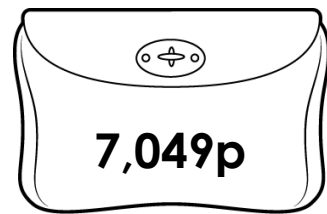
My amount rounds to  
4,900p.

Do you agree? Explain why.



R

8b. Ciaran has:



He says,



My amount rounds to  
£69.00.

Do you agree? Explain why.



R

9a. Zayaan has these digit cards:

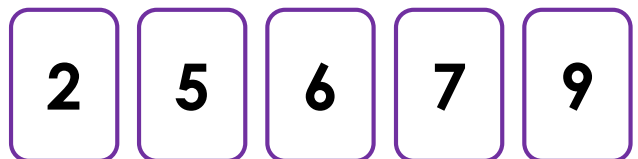


Find all the amounts he can make which round to £35.00.



PS

9b. Isadora has these digit cards:



Find all the amounts she can make which round to 5,700p.



PS

## Reasoning and Problem Solving Using Rounding to Estimate Money

### Developing

- 1a. The arrow is pointing about one quarter of the way along the line so the price is approximately £3.25.
- 2a. Disagree because amounts less than £5.50 will round down to £5.00. £5.45 is nearer to £5.00 than £6.00.
- 3a. £5.46, £4.56, £4.65

### Expected

- 4a. The arrow is pointing to just less than half way along the number line so the price could be between 735p/£7.35 and 745p/£7.45.
- 5a. Agree because amounts over £8.50 will round up to £9.00. £8.63 is nearer to £9.00 than £8.00.
- 6a. £6.73, £6.78, £6.83, £6.87, £7.36, £7.38

### Greater Depth

- 7a. Accept any answers which complete and interpret the number line accurately.
- 8a. Disagree because the amount is half way between £49.00 and £50.00 therefore it should round up to the next whole pound which is £50.00 or 5,000p.
- 9a. £34.51, £34.58, £34.81, £34.85, £35.14, £35.18, £35.41, £35.48

## Reasoning and Problem Solving Using Rounding to Estimate Money

### Developing

- 1b. The arrow is pointing about three quarters of the way along the line so the price is approximately £6.75.
- 2b. Agree because amounts over £8.50 will round up to £9.00. £8.60 is nearer to £9.00 than £8.00.
- 3b. £7.83, £8.37

### Expected

- 4b. The arrow is pointing over three quarters of the way along the number line so the price must be more than £8.75. Therefore, the price could be between £8.80 and £8.90.
- 5b. Disagree because amounts below 850p will round down to the previous pound which is £8.00. Habib has correctly rounded down but to the wrong pound.
- 6b. 561p, 562p, 612p, 615p, 621p, 625p

### Greater Depth

- 7b. Accept any answers which complete and interpret the number line accurately.
- 8b. Disagree because amounts below 7,049p will round down to the previous pound which is £70.00 or 7,000p. Ciaran has correctly rounded down but to the wrong pound.
- 9b. 5,672p, 5,679p, 5,692p, 5,697p, 5,726p, 5,729p