

WA6MNACN6

Calculating with number

Core + Challenge

Estimating and Rounding

I can round numbers and decimals, estimate before I calculate, and judge if an answer is reasonable.

Name: _____ Date: _____ Score: _____ / 56

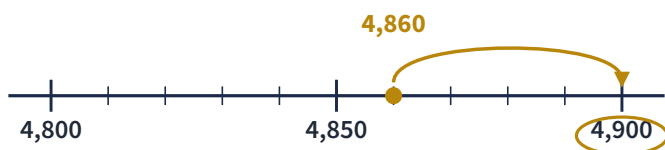
Key idea

To **round**, find the two friendly numbers either side and choose the **closer** one. **Halfway rounds up.** Look at the digit to the **right** of the place you are rounding to: 5 or more rounds up, 4 or less rounds down.

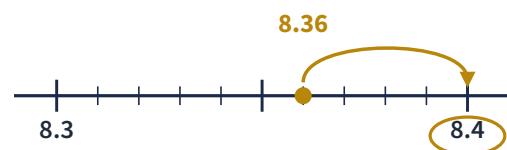
Estimate by rounding each number first, then calculate. If your answer is far from the estimate, check it.

Example: 4,860 is between 4,800 and 4,900. It is past 4,850, so $4,860 \approx 4,900$. ($\approx$ means “is about”.)

4,860 rounds to 4,900 (nearest 100)



8.36 rounds to 8.4 (nearest tenth)



A Warm up *mark, round and estimate*

/ 16 marks

Round each number. Mark it on the line with a dot first. 1 mark each.

1 67 → nearest 10



2 342 → nearest 100



3 6,500 → nearest 1,000



4 4.7 → nearest whole



5 8.63 → nearest tenth



6 2,449 → nearest 100



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Write the numbers at **both** ends of the line. Mark the number, then round it. 1 mark each.

7 $83 \rightarrow$ nearest **10**



8 $1,750 \rightarrow$ nearest **100**



9 $15,280 \rightarrow$ nearest **1,000**



10 $9.52 \rightarrow$ nearest **whole**



11 $3.05 \rightarrow$ nearest **tenth**



12 $996 \rightarrow$ nearest **10**



Circle the **best** estimate. Do not work out the exact answer. 1 mark each.

13 49×21

100 1,000 10,000

14 $612 + 289$

500 900 1,200

15 $3,980 \div 8$

50 500 5,000

16 7.9×6

14 48 480

B**Practise** *use the skill*

/ 21 marks

1 Complete the table.

[3 marks]

Number	Nearest 10	Nearest 100	Nearest 1,000
6,437			
17,351			
995			

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- 2 The Rottnest ferry carried **386** passengers in the morning and **512** in the afternoon. **Estimate** the total by rounding each number to the nearest hundred. [2 marks]
Then work out the exact total.

Estimate: _____

Exact: _____

- 3 Perth's top temperatures on three days were **31.47°C**, **28.95°C** and **35.04°C**. [2 marks]
Round each one to the nearest **whole number** and to the nearest **tenth**.

Temperature	Nearest whole number	Nearest tenth
31.47°C		
28.95°C		
35.04°C		

- 4 Noah worked out $48 \times 52 = 24,960$. Use an **estimate** to show that his answer is [2 marks]
not reasonable. What is the correct answer?

Answer: _____

- 5 Shade the part of the number line where numbers round to **600** (to the nearest [2 marks]
hundred). What is the **smallest** whole number that rounds to 600? What is the **largest**?



Smallest: _____

Largest: _____

- 6 At Woolies, Mum buys items costing **\$4.85**, **\$2.15**, **\$6.90** and **\$3.60**. Round each [3 marks]
price to the nearest dollar and **estimate** the total. Is your estimate **more** or **less** than the exact total? Explain.

Answer: _____

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- 7 Year 6 want to raise **\$1,960** for a new class fridge over **38** weeks. Round both numbers to **estimate** how much they need to raise each week. [2 marks]

Answer: _____

- 8 The crowd at Optus Stadium was **57,486**. The newspaper said “about 57,000”. [3 marks]
The radio said “about 60,000”. **a)** What place did each round to? **b)** Round 57,486 to the nearest hundred. **c)** Which of the three rounded numbers is **closest** to the real crowd?

a) _____

b) _____

c) _____

- 9 Draw a line to join each number to the number it rounds to (to the nearest **tenth**). [2 marks]

6.25 •

6.14 •

5.97 •

6.42 •

• 6.1

• 6.4

• 6.0

• 6.3

C

Think it through *explain your thinking*

/ 10 marks

- 1 Ruby rounds **3,449** to the nearest thousand. She says: “449 rounds to 450, then 500, so 3,449 rounds to 3,500, and then to **4,000**.” Do you agree with Ruby? Explain. [2 marks]

- 2 **True or false?** “A number that rounds to 5,000 (to the nearest thousand) also rounds to 5,000 to the nearest hundred.” Give an example. [2 marks]

- 3 **Always, sometimes or never true?** “If you round both numbers **up** (to bigger numbers), your estimate of their sum will be **more** than the exact sum.” Circle one and explain. [2 marks]

Always

Sometimes

Never

- 4 Which is the **odd one out** when you round to the nearest tenth? 8.46, 8.54, 8.45, 8.55 Explain. [2 marks]

- 5 Mrs Lee has **\$100**. She wants to buy **23** lunch packs for **\$3.95** each. Use estimation to decide if she has enough money. Should she round **up** or **down**? Explain. [2 marks]

D**Challenge** *stretch yourself*

/ 9 marks

- 1** I am a whole number. Rounded to the nearest **10**, I am **450**. Rounded to the nearest **100**, I am **400**. What could I be? Find **all** the possibilities. [3 marks]

Answer: _____

- 2** Use the digits **2, 5, 7** and **9** once each to make a 4-digit number that rounds to **6,000** (to the nearest thousand). Find **all** the possible numbers. [3 marks]

Answer: _____

- 3** **58** students are going on camp. It costs **\$196** per student. **a)** Estimate the total cost. **b)** Is your estimate more or less than the exact cost? How do you know? **c)** The school has **\$12,000**. Is that enough? Explain. [3 marks]

Answer: _____

How did I go?Warm up ____ / 16 Practise ____ / 21 Think it through ____ / 10 Challenge ____ / 9 **Total** ____ / 56Want help with Year 6 maths? Our tutors make it click. **Book a free trial class at edulift.com.au**