ROUND TO THE NEAREST INTEGER

BUILDING BLOCKS

NAME _____ CLASS _____ DATE _____

KEY IDEA

8.7 is nearer to 9 than to 8, so 8.7 rounds to 9 to the nearest whole number.



Halfway numbers round to the greater one: 8.5 → 9

An integer is a whole number with no decimal part, e.g. 7, 0 or −3.

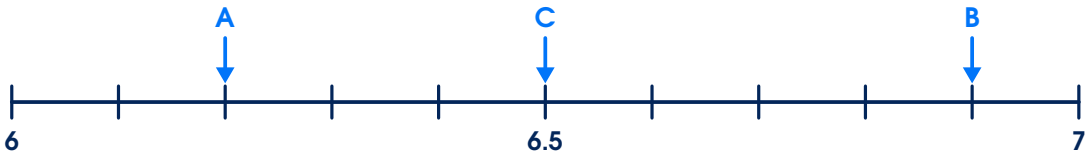
1 Which two whole numbers does each number lie between?

a) **5.3** lies between ☐ and ☐

b) **12.8** lies between ☐ and ☐

c) **0.6** lies between ☐ and ☐

2 Use the number line to round each number to the nearest whole number.



A: 6.2 → ☐ B: 6.9 → ☐ C: 6.5 → ☐

3 Round each number to the nearest whole number.

a) **2.4** ☐ b) **8.6** ☐

c) **14.5** ☐ d) **9.1** ☐

4 Circle the numbers that round to 5 to the nearest whole number.

4.3 **4.7** **5.2** **5.5** **4.5** **5.9**

Use the number line to help.



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SUPPORT

NAME _____ CLASS _____ DATE _____

KEY IDEA

9.18 lies between 9 and 10. Halfway is 9.5
9.18 < 9.5, so 9.18 rounds to 9.

Only the tenths digit decides, not the hundredths.



An integer is a whole number with no decimal part, e.g. 9, 10, 0 or –5.

1 Complete the table.

NUMBER	INTEGER BELOW	INTEGER ABOVE	NEAREST INTEGER
3.76			
15.49			
0.5			

2 Round each number to the nearest integer.

a) **6.82** ____ b) **4.1** ____

c) **19.509** ____ d) **2.45** ____

3 Round each measurement to the nearest metre, pound or kilogram.

a) **4.6 m** ____ b) **12.38 m** ____

c) **£7.49** ____ d) **0.85 kg** ____

4 Each number is rounded to the nearest integer. True or false? Circle your answer.

a) 9.5 rounds to 10 TRUE FALSE

b) 3.49 rounds to 4 TRUE FALSE

c) 12.05 rounds to 13 TRUE FALSE

d) 0.7 rounds to 1 TRUE FALSE

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CORE

NAME _____ CLASS _____ DATE _____

KEY IDEA

Find the integers either side of the number and compare it with the midpoint. Numbers exactly halfway round to the greater integer. The tenths digit decides: 7.48 ≈ 7 but 7.5 ≈ 8. Rounding finds the nearest integer; it never means "take 1 away".

FLUENCY

1 Round each number to the nearest integer.

a) **26.71** ☐ b) **103.5** ☐ c) **0.499** ☐

d) **59.95** ☐ e) **8.05** ☐ f) **999.6** ☐

2 Round the mass of each parcel to the nearest kilogram.

2.35 kg	4.8 kg	1.5 kg	0.62 kg
☐	☐	☐	☐

Use your answers to estimate the total mass. ☐

REASONING

3 Write a number with 2 decimal places that...

a) rounds to 8 and is greater than 8 ☐

b) rounds to 8 and is less than 8 ☐

c) rounds to 0 ☐

4 Amy says, "6.2 rounded to the nearest integer is 5, because you round down." Explain Amy's mistake.

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GREATER DEPTH

NAME _____ CLASS _____ DATE _____

REASONING

1 Is each statement always, sometimes or never true? Circle your answer.

If it is sometimes true, give an example of when it is true and when it is not.

a) A number that rounds to 5 is less than 5. ALWAYS SOMETIMES NEVER

b) Two numbers that round to 6 differ by less than 1. ALWAYS SOMETIMES NEVER

c) Adding 1 then rounding equals rounding then adding 1. ALWAYS SOMETIMES NEVER

PROBLEM SOLVING

2 Two numbers with 1 decimal place both round to 6 to the nearest integer.

a) What is the greatest possible total of the two numbers? ☐

b) What is the smallest possible total? ☐

3 Ola buys 2 notebooks, 3 pens and 1 ruler.

pen £1.49 notebook £3.55 ruler £0.65

a) Round each price to the nearest pound to estimate the cost. ☐

b) Work out the exact cost. ☐

c) Is your estimate more or less than the exact cost? Explain why.

★ CHALLENGE FOR ALL

4 Use each card once. Make numbers with 2 digits before and after the point.

2	5	6	8	.

a) Make the greatest number that rounds to 86 ☐

b) Make the smallest number that rounds to 86 ☐

c) Find both numbers that round to 26 ☐ ☐

ROUND TO THE NEAREST INTEGER

ANSWERS

BUILDING BLOCKS

1 a) 5 and 6 · b) 12 and 13 · c) 0 and 1

2 A: 6.2 → 6 · B: 6.9 → 7 · C: 6.5 → 7

3 a) 2 · b) 9 · c) 15 · d) 9

4 4.7, 5.2 and 4.5

SUPPORT

1 3.76: 3, 4 → 4 · 15.49: 15, 16 → 15 · 0.5: 0, 1 → 1

2 a) 7 · b) 4 · c) 20 · d) 2

3 a) 5 m · b) 12 m · c) £7 · d) 1 kg

4 a) True · b) False (3) · c) False (12) · d) True

CORE

1 a) 27 · b) 104 · c) 0 · d) 60 · e) 8 · f) 1000

2 2 kg, 5 kg, 2 kg, 1 kg · estimate 10 kg

3 a) any number from 8.01 to 8.49 · b) any number from 7.50 to 7.99 · c) any number from 0.01 to 0.49, e.g. 0.25

4 6.2 lies between 6 and 7 and is nearer to 6, so it rounds to 6. Amy has taken 1 away; "rounding down" means keeping the integer part, 6

GREATER DEPTH

1 a) Sometimes, e.g. $4.8 < 5$ but $5.3 > 5$ · b) Always (both lie from 5.5 up to, but not including, 6.5) · c) Always, e.g. 3.6 → 4 → 5 and 3.6 → 4.6 → 5

2 a) 6.4 + 6.4 = 12.8 · b) 5.5 + 5.5 = 11

3 a) 2 × £4 + 3 × £1 + £1 = £12 · b) £7.10 + £4.47 + £0.65 = £12.22 · c) Less, by 22p: the 3 pens were rounded down by 49p each (£1.47), which is more than the 90p (notebooks) and 35p (ruler) rounded up

★ a) 86.25 · b) 85.62 · c) 25.68 and 25.86