ROUND TO 1 SIGNIFICANT FIGURE

BUILDING BLOCKS

NAME _____ CLASS _____ DATE _____

KEY IDEA

Rounding gives a simpler number that is close.

Look at the digit to the RIGHT of the place you are rounding to.

0, 1, 2, 3, 4 → round down

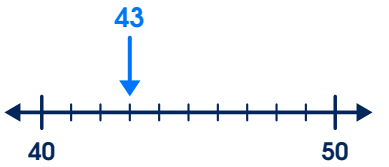
5, 6, 7, 8, 9 → round up



368 is closer to 370

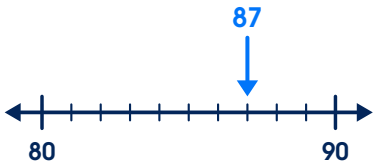
1 Use the number line. Round each number to the nearest 10.

a)



→ ☐

b)



→ ☐

2 The first digit that is not zero is shaded blue. Write what it is worth.

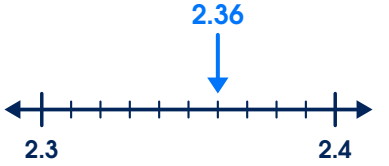
	Th thousands	H hundreds	T tens	O ones	t tenths	h hundredths	th thousandths	IT IS WORTH
a)		3	5	2				
b)	6	8	1	5				
c)				0	4	7		
d)				0	0	5	2	

3 Round each number. Look at the digit to the right each time.

NUMBER	NEAREST 10	NEAREST 100	NEAREST 1000
2746			
5951			

4 Use the number line. Round each number to the nearest tenth (1 decimal place).

a)



→ ☐

b)



→ ☐

ROUND TO 1 SIGNIFICANT FIGURE

SUPPORT

NAME _____ CLASS _____ DATE _____

KEY IDEA

The 1st significant figure (s.f.) is the first digit that is not zero.

Round to its place value. The digit after it (dashed) decides: 5 or more rounds up.

H hundreds	T tens	O ones	t tenths	h hundredths	th thousandths	tth ten thous.ths
3	6	8				
		0	0	2	7	4

1st s.f. is in the hundreds column → ≈ 400

1st s.f. is in the hundredths column → ≈ 0.03

1 Write the 1st s.f. of each number and its place value. Part a) is done for you.

	Th thousands	H hundreds	T tens	O ones	t tenths	h hundredths	th thousandths	1ST S.F.	ITS PLACE VALUE
a)		5	2	7				5	hundreds
b)	8	1	4	0					
c)				0	3	6			
d)				0	0	9	2		
e)			7	4					

2 Use the number line to round each number to 1 significant figure.

a) 641 on a number line from 600 to 700 → ____

b) 0.048 on a number line from 0.04 to 0.05 → ____

3 Round each number to 1 significant figure.

a) 47 ____

b) 2863 ____

c) 0.71 ____

d) 0.0362 ____

4 Ali rounds 0.086 to 1 significant figure. He writes 0.1

a) What should Ali's answer be? ____

b) What mistake did Ali make?

_____

ROUND TO 1 SIGNIFICANT FIGURE

CORE

NAME _____ CLASS _____ DATE _____

KEY IDEA

Find the first non-zero digit and round to its place value. In whole numbers, fill the places after it with zeros (8512 ≈ 9000). In decimals, nothing is written after the last digit you keep (0.0078 ≈ 0.008).

FLUENCY

1 Round each number to 1 significant figure.

a) **73** ☐

b) **6481** ☐

c) **38 950** ☐

d) **96** ☐

e) **0.43** ☐

f) **0.0078** ☐

g) **7.62** ☐

h) **0.95** ☐

2 Draw a line to match each number to its value rounded to 1 significant figure.

349 •	• 3
351 •	• 300
0.0351 •	• 0.04
3.49 •	• 400

REASONING

3 A whole number rounds to 600 when it is rounded to 1 significant figure.

a) What is the smallest number it could be? ☐

b) What is the largest number it could be? ☐

4 Jack says, "0.0628 rounded to 1 significant figure is 0.1, because the first digit is 0 so I look at the 6." Explain Jack's mistake and give the correct answer.

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ROUND TO 1 SIGNIFICANT FIGURE

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) After rounding to 1 s.f., there is one non-zero digit. ALWAYS SOMETIMES NEVER

b) 1 s.f. gives the same answer as the nearest 10 ALWAYS SOMETIMES NEVER

c) Rounding to 1 s.f. makes a number smaller. ALWAYS SOMETIMES NEVER

d) A decimal between 0 and 1 rounds to 0 (1 s.f.). ALWAYS SOMETIMES NEVER

PROBLEM SOLVING

2 Use each digit card once to make a 4-digit number.

3	0	7	5

a) Make a number that rounds to 4000 to 1 s.f. ☐

b) How many different numbers round to 4000 to 1 s.f.? ☐

c) What is the largest number you can make that rounds to 5000? ☐

3 A newspaper says 30 000 people watched a match. This is rounded to 1 significant figure.

a) What is the smallest the crowd could have been? ☐

b) What is the largest the crowd could have been? ☐

c) Two crowds both round to 30 000. What is the greatest possible difference? ☐

★ CHALLENGE FOR ALL

4 x has three decimal places (the last digit is not 0). x rounds to 0.7 to 1 s.f. and to 0.65 to 2 decimal places.

a) Write down all the possible values of x. ☐

b) The digits of x add up to 15. What is x? ☐

ROUND TO 1 SIGNIFICANT FIGURE – ANSWERS

ANSWERS

BUILDING BLOCKS

Q1 a) 40 · b) 90

Q2 a) 300 · b) 6000 · c) 0.4 (4 tenths) · d) 0.05 (5 hundredths)

Q3 2746: 2750, 2700, 3000 · 5951: 5950, 6000, 6000

Q4 a) 2.4 · b) 0.7

SUPPORT

Q1 a) worked example (5, hundreds) · b) 8, thousands · c) 3, tenths · d) 9, hundredths · e) 7, tens

Q2 a) 600 · b) 0.05

Q3 a) 50 · b) 3000 · c) 0.7 · d) 0.04

Q4 a) 0.09 · b) He rounded to 1 decimal place (the nearest tenth) instead of to the first significant figure, which is the 8 in the hundredths column.

CORE

Q1 a) 70 · b) 6000 · c) 40 000 · d) 100 · e) 0.4 · f) 0.008 · g) 8 · h) 1

Q2 349 → 300 · 351 → 400 · 0.0351 → 0.04 · 3.49 → 3

Q3 a) 550 · b) 649

Q4 Leading zeros are not significant. The 1st s.f. is the 6 (hundredths); the next digit 2 means round down, so 0.0628 ≈ 0.06

GREATER DEPTH

Q1 a) Always (e.g. 96 → 100, 0.0451 → 0.05) · b) Sometimes: 47 → 50 both ways, but 347 → 300 (1 s.f.) and 350 (nearest 10) · c) Sometimes: 32 → 30 is smaller, 37 → 40 is bigger · d) Never: the first non-zero digit is kept, e.g. 0.03 → 0.03

Q2 a) Any of 3507, 3570, 3705, 3750 · b) 4 · c) 5370

Q3 a) 25 000 · b) 34 999 · c) 34 999 − 25 000 = 9999

Q4 a) 0.651, 0.652, 0.653, 0.654 · b) 0.654 (6 + 5 + 4 = 15)