Place Value, Ordering & Rounding

Practice Worksheet (Foundation · Target Grade 5)

I Do

(a) Write the number $47\,082$ in words.

..... *(1 mark)*

(b) Write the following numbers in order of size. Start with the smallest number.

$0.405 \qquad 0.45 \qquad 0.049 \qquad 0.4 \qquad 0.415$

..... *(1 mark)*

(c) Write 6384 correct to the nearest hundred.

..... *(1 mark)*

(d) Write 17.864 correct to 1 decimal place.

..... *(1 mark)*

(Total for Question is 4 marks)

We Do

(a) Write the number $53\,049$ in words.

..... *(1 mark)*

(b) Write the following numbers in order of size. Start with the smallest number.

$0.608 \qquad 0.68 \qquad 0.069 \qquad 0.6 \qquad 0.618$

..... *(1 mark)*

(c) Write 7462 correct to the nearest hundred.

..... *(1 mark)*

(d) Write 24.371 correct to 1 decimal place.

..... *(1 mark)*

(Total for Question is 4 marks)

You Do 1

(a) Write the number $80\,416$ in words.

..... *(1 mark)*

(b) Write the following numbers in order of size. Start with the smallest number.

$$0.32 \qquad 0.302 \qquad 0.039 \qquad 0.3 \qquad 0.312$$

..... *(1 mark)*

(c) Write 4928 correct to the nearest ten.

..... *(1 mark)*

(d) Write 9.485 correct to 2 decimal places.

..... *(1 mark)*

(Total for Question is 4 marks)

You Do 2

(a) Write the number *six hundred and four thousand and nineteen* in figures.

..... *(1 mark)*

(b) Write the following numbers in order of size. Start with the smallest number.

$$1.5 \qquad 1.055 \qquad 1.55 \qquad 1.05 \qquad 1.505$$

..... *(1 mark)*

(c) Write $18\,740$ correct to the nearest thousand.

..... *(1 mark)*

(d) Write 0.0684 correct to 2 decimal places.

..... *(1 mark)*

(Total for Question is 4 marks)

You Do 3

(a) Write down the value of the digit 7 in the number $374\,205$.

..... *(1 mark)*

(b) Write the following numbers in order of size. Start with the **largest** number.

$$0.81 \qquad 0.809 \qquad 0.89 \qquad 0.089 \qquad 0.8$$

..... *(1 mark)*

(c) Write 3982 correct to the nearest hundred.

..... *(1 mark)*

(d) Write 14.973 correct to 1 decimal place.

..... *(1 mark)*

(Total for Question is 4 marks)

Challenge 1

(a) Write the following numbers in order of size. Start with the smallest number.

$$0.62 \qquad \frac{5}{8} \qquad 60.5\% \qquad 0.608 \qquad \frac{3}{5}$$

..... *(2 marks)*

(b) Write 0.004872 correct to 2 significant figures.

..... *(1 mark)*

(c) Write $49\,620$ correct to 2 significant figures.

..... *(1 mark)*

(Total for Question is 4 marks)

Challenge 2

Here are five digit cards:

0	2	5	7	9

Each card can be used at most once in each part.

(a) Use all five cards to make the smallest possible **even** 5-digit number.

..... *(1 mark)*

(b) Use all five cards to make the 5-digit number that is closest to $70\,000$.

..... *(2 marks)*

(c) An integer n rounds to $70\,000$ when rounded to the nearest thousand, and rounds to $69\,500$ when rounded to the nearest hundred.
Write down a possible value of n.

$n =$ ..... *(2 marks)*

(Total for Question is 5 marks)

Extreme Challenge

(a) A number x is rounded to 1 decimal place. The result is 8.4.
Write down the error interval for x.

..... $\leq x <$ ..... *(2 marks)*

(b) A different number y is truncated to 1 decimal place. The result is 8.4.
Write down the error interval for y.

..... $\leq y <$ ..... *(1 mark)*

(c) Find the **smallest** possible integer k such that:

- when k is rounded to the nearest hundred, the result is 4500, and
- when k is rounded to the nearest ten, the result is 4460.

Show your working clearly.

$k =$ ..... *(2 marks)*

(Total for Question is 5 marks)

Worked Answers

I Do
(a) Forty-seven thousand and eighty-two.
(b) Pad to 3 decimal places ($0.405, 0.450, 0.049, 0.400, 0.415$)**:**
0.**049**, **0**.**4**, **0**.**405**, **0**.**415**, **0**.**45**
(c) The tens digit is 8 (≥ 5), so round up: **6400**.
(d) The second decimal digit is 6 (≥ 5), so round up: **17**.**9**.

We Do
(a) Fifty-three thousand and forty-nine.
(b) 0.**069**, **0**.**6**, **0**.**608**, **0**.**618**, **0**.**68**
(c) 7500
(d) 24.**4**

You Do 1
(a) Eighty thousand, four hundred and sixteen.
(b) 0.**039**, **0**.**3**, **0**.**302**, **0**.**312**, **0**.**32**
(c) 4930
(d) The third decimal digit is 5, so round up: **9**.**49**.

You Do 2
(a) 604 019
(b) 1.**05**, **1**.**055**, **1**.**5**, **1**.**505**, **1**.**55**
(c) 19 000
(d) 0.**07**

You Do 3
(a) 70 000 *(or seventy thousand)*.
(b) Largest to smallest: **0**.**89**, **0**.**81**, **0**.**809**, **0**.**8**, **0**.**089**
(c) The tens digit is 8 (≥ 5); rounding up 39 hundreds gives 40 hundreds: **4000**.
(d) The second decimal digit is 7 (≥ 5); rounding up 14.9 gives **15**.**0** *(the trailing zero must be kept for 1 decimal place)*.

Challenge 1

(a) Convert all numbers to decimals with 3 decimal places:

$0.62 = 0.620$, $\quad \frac{5}{8} = 0.625$, $\quad 60.5\% = 0.605$, $\quad 0.608$, $\quad \frac{3}{5} = 0.600$.

In order from smallest to largest:

$\mathbf{\frac{3}{5}}$, $\quad$ **60.5%**, $\quad$ **0.608**, $\quad$ **0.62**, $\quad \mathbf{\frac{5}{8}}$

(b) Leading zeros are not significant. The first two significant digits are 4 and 8; the next digit is 7 (≥ 5), so round up: **0.0049**.

(c) The first two significant digits are 4 and 9; the next digit is 6 (≥ 5), so 49 rounds up to 50: **50 000**.

Challenge 2

(a) A 5-digit number cannot start with 0, so the smallest leading digit is 2. To be even, it must end in 0 (since 2 is already used). Arrange the remaining digits ($5, 7, 9$) in ascending order: **25 790**.

(b) Compare the closest possible numbers above and below $70\,000$:
- Smallest number above $70\,000$: $70\,259$ (distance $= 259$).
- Largest number below $70\,000$: $59\,720$ (distance $= 10\,280$).

Closest number: **70 259**.

(c) Rounding to $70\,000$ (nearest thousand) requires $69\,500 \leq n \leq 70\,499$.
Rounding to $69\,500$ (nearest hundred) requires $69\,450 \leq n \leq 69\,549$.
Both conditions hold for any integer from **69 500** to **69 549** inclusive (e.g., **69 520**).

Extreme Challenge

(a) $\mathbf{8.35 \leq x < 8.45}$

(b) Truncating cuts off all digits after the first decimal place without rounding up:
$\mathbf{8.4 \leq y < 8.5}$

(c) 1. Rounding to 4500 (nearest hundred) requires $4450 \leq k \leq 4549$.
2. Rounding to 4460 (nearest ten) requires $4455 \leq k \leq 4464$.
3. The overlap of both ranges is $4455 \leq k \leq 4464$.

Therefore, the smallest possible integer is $\mathbf{k = 4455}$.