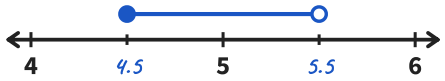
Error intervals

ANSWERS

1

$x = 5$, to the nearest whole number.
Show the error interval on the number line, then write it.



half of 1: 0.5

lower bound: 4.5

upper bound: 5.5

Answer $4.5 \leq x < 5.5$

2

$x = 40$, to the nearest 10. Show the error interval on the number line, then write it.



half of 10: 5

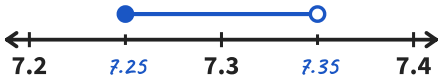
lower bound: 35

upper bound: 45

Answer $35 \leq x < 45$

3

$x = 7.3$, to 1 decimal place.
Show the error interval on the number line, then write it.



half of 0.1: 0.05

lower bound: 7.25

upper bound: 7.35

Answer $7.25 \leq x < 7.35$

4

$x = 500$, to the nearest 100.
Show the error interval on the number line, then write it.



Answer $450 \leq x < 550$

5

$x = 2600$, to 2 significant figures.
Write the error interval for x.

rounding unit: 100

half of it: 50

Answer $2550 \leq x < 2650$

6

A bag of flour weighs 1.5 kg, to 1 decimal place. Write the error interval for its mass, m kg.

half of 0.1 is 0.05

Answer $1.45 \leq m < 1.55$

7

Tom says the error interval for $x = 4.8$, to 1 decimal place, is $4.7 \leq x < 4.9$.
Explain his mistake. Then write the right error interval.

he went a whole 0.1 either side:

4.7 rounds to 4.7, not 4.8

Answer $4.75 \leq x < 4.85$

8

A number y, rounded to 1 decimal place, has the error interval $6.35 \leq y < 6.45$.
What is y rounded to 1 decimal place?

halfway between 6.35 and 6.45

Answer 6.4

Error intervals *further practice*

ANSWERS

9

$x = 3.6$, to 1 decimal place.
Write the error interval for x.

half of 0.1 is 0.05

3.6 − 0.05 and 3.6 + 0.05

Answer 3.55 ≤ x < 3.65

10

$x = 0.47$, to 2 decimal places.
Write the error interval for x.

rounding unit 0.01

half of 0.01 is 0.005

Answer 0.465 ≤ x < 0.475

11

A water tank holds 650 litres, to the nearest 50 litres. Write the error interval for the volume, V litres.

half of 50 is 25

650 − 25 and 650 + 25

Answer 625 ≤ V < 675

12

A footbridge is 380 m long, to 2 significant figures. Write the error interval for its length, L metres.

the 8 is in the tens: rounding unit 10

half of 10 is 5

Answer 375 ≤ L < 385

13

A number x is truncated to 1 decimal place. The answer is 5.2.
Write the error interval for x.

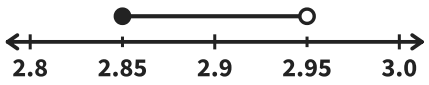
5.29 and 5.299 truncate to 5.2

5.3 does not

Answer 5.2 ≤ x < 5.3

14

The number line shows the error interval for x, rounded to 1 decimal place. Write the error interval.
What is x rounded?



filled circle 2.85, open circle 2.95

halfway between them is 2.9

Answer 2.85 ≤ x < 2.95; 2.9

15

$x = 6.3$, to 1 decimal place.
Which of these could x be? 6.25 6.2 6.349 6.35

6.25 ≤ x < 6.35

6.35 rounds up to 6.4

Answer 6.25 and 6.349

16

Priya writes the error interval for $x = 2.5$, to 1 decimal place, as $2.45 \le x \le 2.55$. Explain her mistake.

2.55 rounds up to 2.6, not 2.5,

so the upper sign is <

Answer 2.45 ≤ x < 2.55