

What is rounding?

Rounding is simplifying a number to make it easier to use.

When a number has been rounded it is less accurate but remains close to the original value.

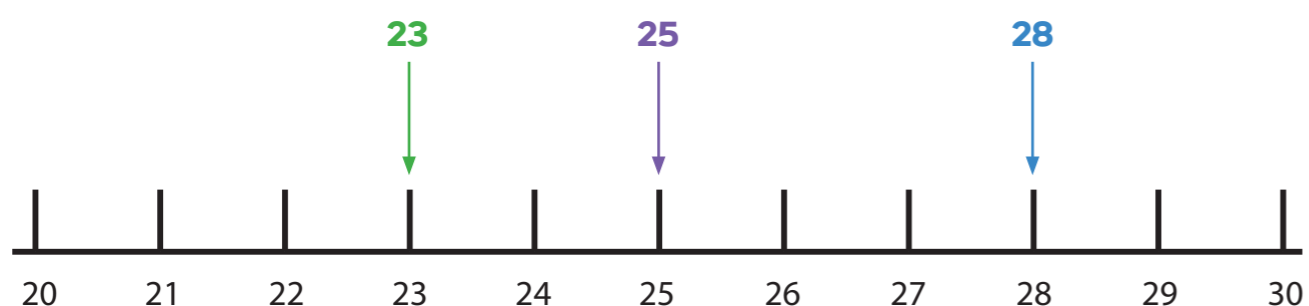
Why do we need to round numbers?

It is not always necessary or possible to give an exact number.

For example, a news website might report that 23 000 people went to a music festival. The figure has been **rounded** to give an approximate number – probably to the nearest 1000. It does not mean that exactly 23 000 people went.

Rounding to the nearest 10

The numbers indicated by coloured arrows are all between 20 and 30



23 rounded to the nearest 10 is **20** because 23 is closer to 20 than it is to 30

28 rounded to the nearest 10 is **30** because 28 is closer to 30 than it is to 20

25 is exactly halfway between 20 and 30

For a halfway number, we round **up**. **25 rounded** to the nearest 10 is **30**

Rules for rounding to the nearest 10

If the units value is 1, 2, 3 or 4 then we **round down** to the current tens value.



If the units value is 5, 6, 7, 8 or 9 then we **round up** to the next tens value.



Examples

Round these numbers to the nearest 10

- a. **67**
- b. **32**
- c. **325**

Answers

- a. 67 is between 60 and 70, but it is closer to 70
67 rounded to the nearest 10 is **70**
- b. 32 is between 30 and 40 but it is closer to 30
32 rounded to the nearest 10 is **30**
- c. 325 is halfway between 320 and 330
The rule is to round up
325 rounded to the nearest 10 is **330**

1, 2, 3, 4 ROUND DOWN



5, 6, 7, 8, 9 ROUND UP



Level 4

Approximate within 10 000 to the nearest 10, 100 and 1000

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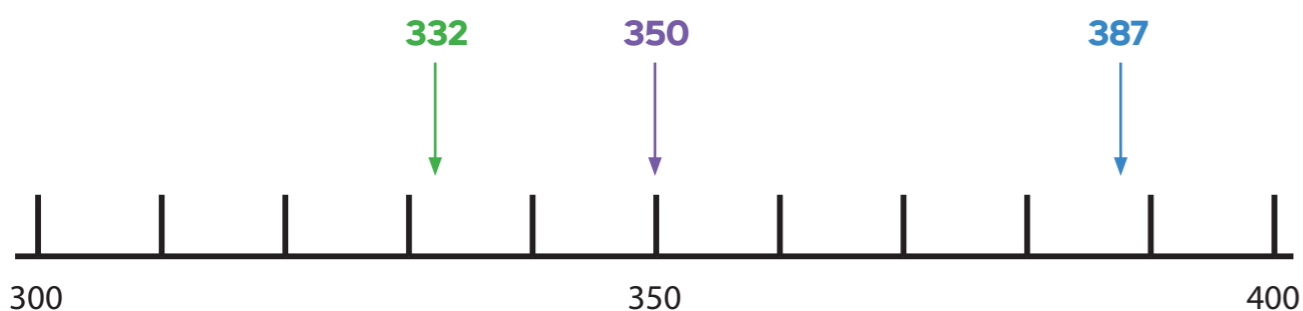
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Rounding to the nearest 100

The numbers indicated by coloured arrows are all between 300 and 400



332 rounded to the nearest 100 is **300** because 332 is closer to 300 than it is to 400

387 rounded to the nearest 100 is **400** because 387 is closer to 400 than it is to 300

350 is exactly halfway between 300 and 400

For a halfway number, we round **up**. **350 rounded** to the nearest 100 is **400**

Rules for rounding to the nearest 100

If the tens value is 1, 2, 3 or 4 then we **round down** to the current hundreds value.



If the tens value is 5, 6, 7, 8 or 9 then we **round up** to the next hundreds value.



Examples

Round these numbers to the nearest 100

- a. **829**
- b. **274**
- c. **6150**

Answers

- a. 829 is between 800 and 900, but it is closer to 800
829 rounded to the nearest 100 is **800**
- b. 274 is between 200 and 300 but it is closer to 300
274 rounded to the nearest 100 is **300**
- c. 6150 is halfway between 6100 and 6200
The rule is to round up.
6150 rounded to the nearest 100 is **6200**

1, 2, 3, 4 ROUND DOWN



5, 6, 7, 8, 9 ROUND UP



Level 4

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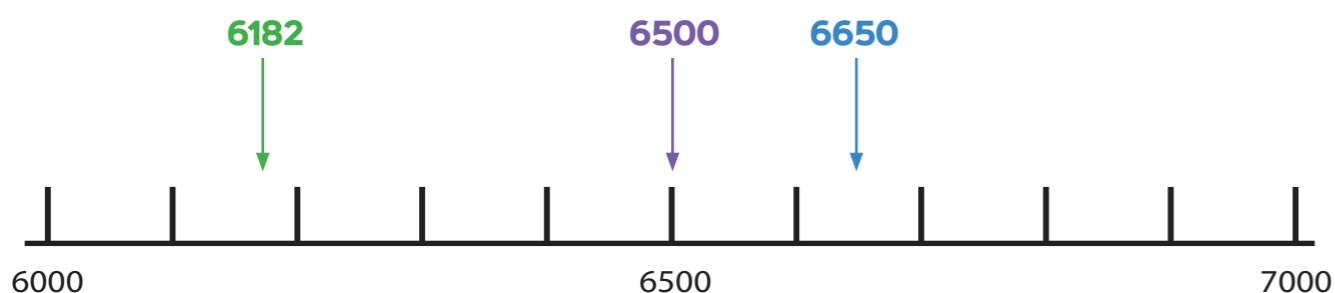
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Rounding to the nearest 1000

The numbers indicated by coloured arrows are all between 6000 and 7000



6182 rounded to the nearest 1000 is **6000** because 6182 is closer to 6000 than it is to 7000

6650 rounded to the nearest 1000 is **7000** because 6650 is closer to 7000 than it is to 6000

6500 is exactly halfway between 6000 and 7000

For a halfway number, we round **up**. **6500 rounded** to the nearest 1000 is **7000**

Rules for rounding to the nearest 1000

If the hundreds value is 1, 2, 3 or 4 then we **round down** to the current thousands value.



If the hundreds value is 5, 6, 7, 8 or 9 then we **round up** to the next thousands value.



Examples

Round these numbers to the nearest 1000

- a. **5872**
- b. **4329**
- c. **9500**

Answers

- a. 5872 is between 5000 and 6000, but it is closer to 6000
5872 rounded to the nearest 1000 is **6000**
- b. 4329 is between 4000 and 5000 but it is closer to 4000
4329 rounded to the nearest 1000 is **4000**
- c. 9500 is halfway between 9000 and 10 000
The rule is to round up.
9500 rounded up to the nearest 1000 is **10 000**

1, 2, 3, 4 ROUND DOWN

5, 6, 7, 8, 9 ROUND UP



Level 4

Approximate within 10 000 to the nearest 10, 100 and 1000