

Week 4

This week in a nutshell:

This week, students are moving away from just using facts, towards using information in order to apply recently covered skills. The questions are not highly technical, but do require a solid foundation in order to be successful.

Question 1: Non-metric units

Question 2: Correcting standard form

Question 3: Data handling cycle

Question 4: Using position to term rule

Question 5: Circumference

A discussion about non-metric units is very useful; students often know more about this than they realise. The questions for circumference could be answered exact or using an approximation at the teacher's discretion. The rules for standard form should be emphasised to highlight the importance of this topic.

This week's ideas for class discussion include:

Question 1: **Non-metric units**

- Without typical measuring devices, how would you describe the size of things?
- How many non-metric units can you name?

Question 2: **Correcting standard form**

- Why do you think it is important to correct standard form?

Question 3: **Data handling cycle**

- Why does the data handling cycle not stop after an investigation?

Question 4: **Using position to term rule**

- Why do you think it is an advantage to have an n^{th} term rule?
- Can you find an example of where an n^{th} term does not exist?

Question 5: **Circumference**

- Why do you think the perimeter of a circle has been given its own name?

Week 4: Day 1

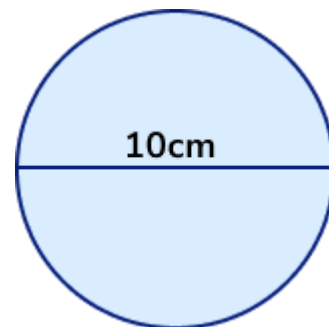
1) There are 3 feet in 1 yard. How many feet are in 15 yards?

2) Write in correct standard form: 18×10^2

3) Give an advantage of using a census as part of the data handling cycle.

4) Generate the first 5 terms of the sequence with the position to term rule:
 $5n$

5) Given the diameter of this circle is 10cm, calculate the circumference.



Week 4: Day 1 Answers

- 1) There are 3 feet in 1 yard. How many feet are in 15 yards?

45 feet

- 2) Write in correct standard form: 18×10^2

$= 1.8 \times 10^3$

- 3) Give an advantage of using a census as part of the data handling cycle.

Includes everyone

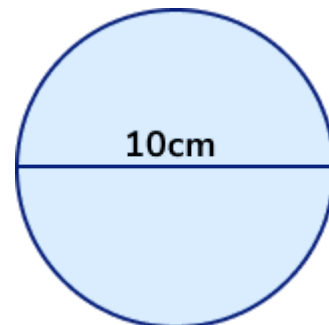
- 4) Generate the first 5 terms of the sequence with the position to term rule:

$5n$

5, 10, 15, 20, 25

- 5) Given the diameter of this circle is 10cm, calculate the circumference.

$= 31.4...cm$



Week 4: Day 2

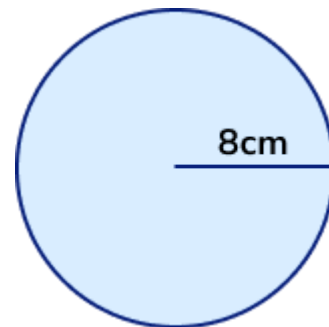
- 1) There are 12 inches in 1 foot. How many feet are in 60 inches?

- 2) Write in correct standard form: 34.2×10^3

- 3) Give an advantage of using a sample as part of the data handling cycle.

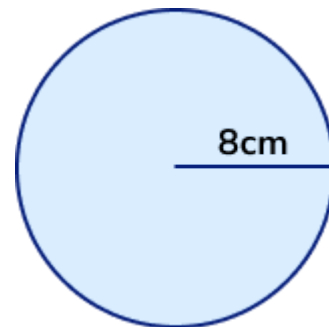
- 4) Generate the first 5 terms of the sequence with the position to term rule:
 $3n-2$

- 5) Given the radius of this circle is 8cm , calculate the circumference.



Week 4: Day 2 Answers

- 1) There are 12 inches in 1 foot. How many feet are in 60 inches?
5 feet
-
- 2) Write in correct standard form: 34.2×10^3
 $= 3.42 \times 10^4$
-
- 3) Give an advantage of using a sample as part of the data handling cycle.
Saves time/money
-
- 4) Generate the first 5 terms of the sequence with the position to term rule:
 $3n-2$
1, 4, 7, 10, 13
-
- 5) Given the radius of this circle is 8cm, calculate the circumference.
 $= 50.265...cm$



Week 4: Day 3

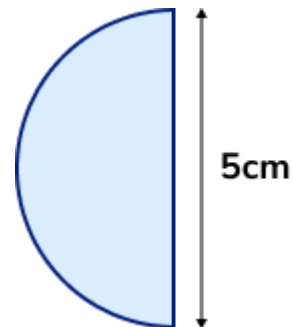
1) There are 16 ounces in a pound. How many ounces are there in 6 pounds?

2) Write in correct standard form: 47×10^{-2}

3) Give a disadvantage of using a census as part of the data handling cycle.

4) Generate the first 5 terms of the sequence with the position to term rule:
 $11 - 3n$

5) Work out the perimeter of this semicircle.



Week 4: Day 3 Answers

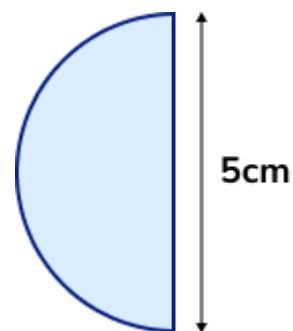
- 1) There are 16 ounces in a pound. How many ounces are there in 6 pounds?
= 96
-

- 2) Write in correct standard form: 47×10^{-2}
= 4.7×10^{-1}
-

- 3) Give a disadvantage of using a census as part of the data handling cycle.
Expensive, takes a lot of time
-

- 4) Generate the first 5 terms of the sequence with the position to term rule:
 $11 - 3n$
8, 5, 2, -1, -4
-

- 5) Work out the perimeter of this semicircle.
= 12.85...cm



Week 4: Day 4

1) There are 14 pounds in a stone. How many stone is 154 pounds?

2) Write in correct standard form: 314×10^{-4}

3) Give an advantage of using secondary data as part of the data handling cycle.

4) Generate the first 5 terms of the sequence given with position to term rule:
 $n^2 - 1$

5) Work out the perimeter of this quarter circle.



Week 4: Day 4 Answers

- 1) There are 14 pounds in a stone. How many stone is 154 pounds?
= 11
-

- 2) Write in correct standard form: 314×10^{-4}
= 3.14×10^{-2}
-

- 3) Give an advantage of using secondary data as part of the data handling cycle.
Data is already available.
-

- 4) Generate the first 5 terms of the sequence given with position to term rule:
 $n^2 - 1$
0, 3, 8, 15, 24
-

- 5) Work out the perimeter of this quarter circle.
= 24.996...cm



Week 4: Day 5

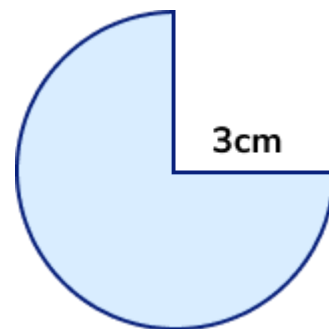
1) How many inches are there in 2 yards?

2) Write in correct standard form: 0.08×10^8

3) Give a disadvantage of using primary data as part of the data handling cycle.

4) Generate the first 5 terms of the sequence with the position to term rule:
 $2n^2 + n$

5) Work out the perimeter of this shape, which is a circle with one quarter removed.



Week 4: Day 5 Answers

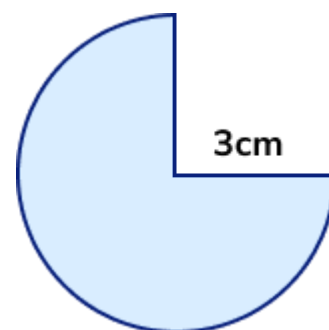
- 1) How many inches are there in 2 yards?
= 72 inches

- 2) Write in correct standard form: 0.08×10^8
= 8×10^6

- 3) Give a disadvantage of using primary data as part of the data handling cycle.
Expensive, takes time, poor response rates.

- 4) Generate the first 5 terms of the sequence with the position to term rule:
 $2n^2 + n$
3, 10, 21, 36, 55

- 5) Work out the perimeter of this shape, which is a circle with one quarter removed.
= 20.137...cm



Do you have KS4 students who need additional support in maths?

Our specialist tutors will help them develop the skills they need to succeed at GCSE in weekly one to one online revision lessons. Trusted by secondary schools across the UK. Visit thirdspacelearning.com to find out more.