

## Week 4

### This week in a nutshell:

Introduce Q1 in context by discussing how to calculate the percentage a student achieved on a test given their score out of the total. Encourage students to show their method for Q2 and 3. Calculators will be needed for Q4. Use visual aids to demonstrate the relationship between the circumference and diameter of a circle. Q5 will require printing or copying onto squared paper. Also consider support materials such as mirrors and tracing paper.

**Question 1:** Expressing a percentage

**Question 2:** Proportional reasoning

**Question 3:** Solving two step equations

**Question 4:** Calculating circumference

**Question 5:** Reflecting a shape

The questions aim to develop and deepen understanding over the week. Due to the necessity of the topics covered this week, there is an emphasis on the interchangeability of command words, and language flexibility. It may be worth taking some extra time this week to make sure your students are developing their mathematical literacy.

### This week's ideas for class discussion include:

Question 1: **Expressing a percentage**

- "A percentage is a special case of a fraction." Discuss.

Question 2: **Proportional reasoning**

- Can you think of a situation in your life where you have used proportional reasoning?

Question 3: **Solving two step equations**

- To solve the equation  $2a + 5 = 11$  using inverse operations method should you 'divide by 2 and then subtract 5' or 'subtract 5 and then divide by 2'? Discuss the importance of the order of inverse operations when solving equations.

Question 4: **Calculating circumference**

- Draw a circle and the diameter. Cut a piece of string the length of the diameter. How many times does this length of string fit round the circumference of the circle? Using this visual demonstration as a guide explain what pi ( $\pi$ ) is.

Question 5: **Reflecting a shape**

- What skills can be demonstrated when reflecting a shape? List as many as you can.

## Week 4: Day 1

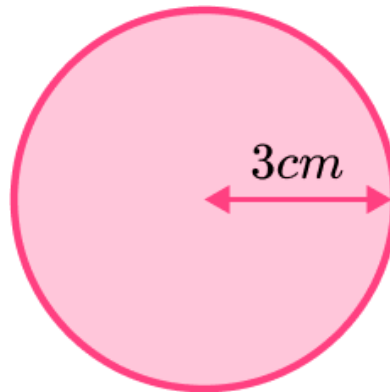
1) Express 37 out of 50 as a percentage.

2) Five pens cost £2.40. How much do three pens cost?

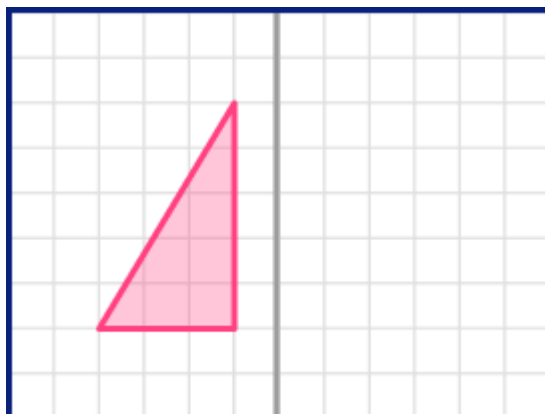
3) Solve:

$$3x - 5 = 13$$

4) What is the circumference of the circle below? Give your answer to 2 decimal places.



5) Reflect the triangle in the line of symmetry.



## Week 4: Day 1 Answers

1) Express 37 out of 50 as a percentage. 74%

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2) Five pens cost £2.40. How much do three pens cost? £1.44

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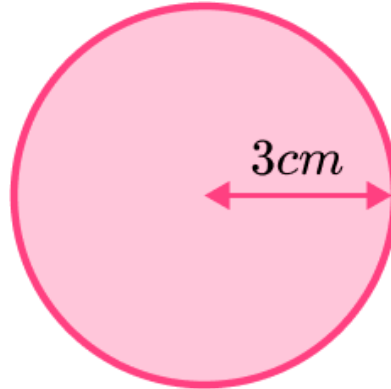
3) Solve:

$$3x - 5 = 13 \quad x = 6$$

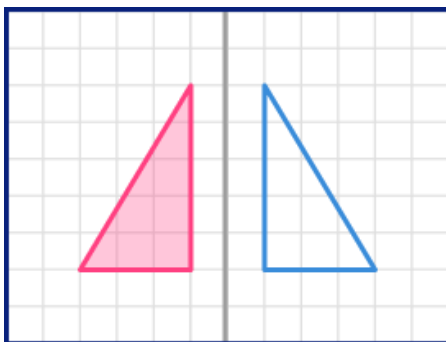
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4) What is the circumference of the circle below? Give your answer to 2 decimal places.

18.85cm



5) Reflect the triangle in the line of symmetry.



## Week 4: Day 2

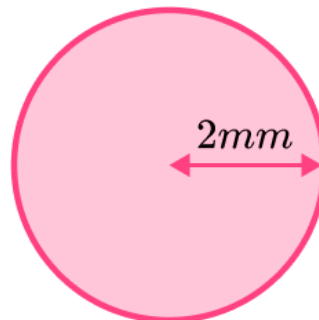
1) Express 3 out of 25 as a percentage.

2) Three bags cost £87. How much do four bags cost?

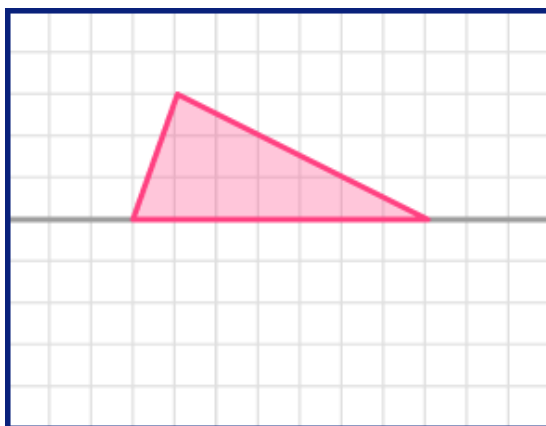
3) Solve:

$$2x + 7 = 3$$

4) What is the circumference of the circle below? Give your answer to 2 decimal places.



5) Reflect the triangle in the line of symmetry.



## Week 4: Day 2 Answers

1) Express 3 out of 25 as a percentage. **12%**

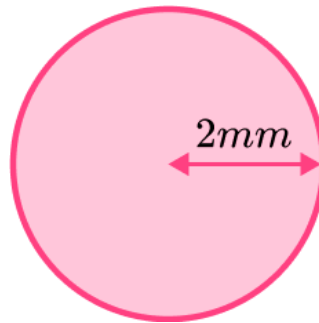
2) Three bags cost £87. How much do four bags cost? **£116**

3) Solve:

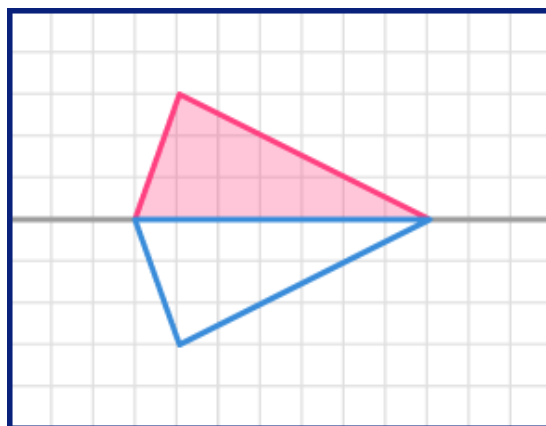
$$2x + 7 = 3 \quad x = -2$$

4) What is the circumference of the circle below? Give your answer to 2 decimal places.

**12.57mm**



5) Reflect the triangle in the line of symmetry.



## Week 4: Day 3

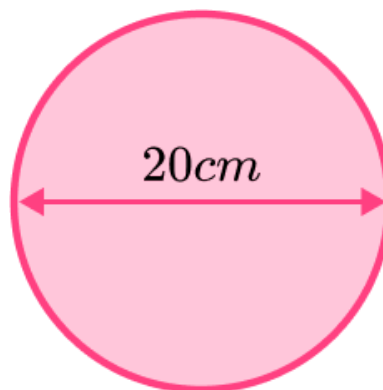
1) Express 11 out of 20 as a percentage.

2) Two door-stops weigh 2.5kg. How much do five door-stops weigh?

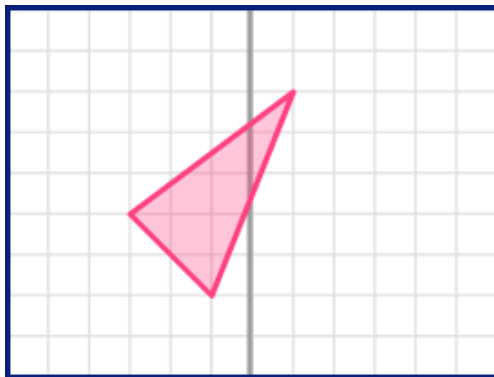
3) Solve:

$$\frac{x}{3} + 5 = 9$$

4) What is the circumference of the circle below? Give your answer to 2 decimal places.



5) Reflect the triangle in the line of symmetry.



## Week 4: Day 3 Answers

1) Express 11 out of 20 as a percentage. 55%

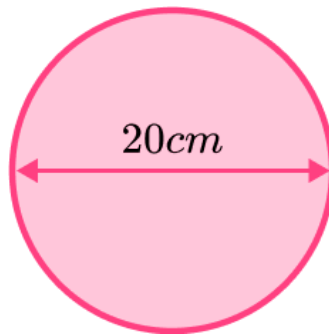
2) Two door-stops weigh 2.5kg. How much do five door-stops weigh?  
6.25kg

3) Solve:

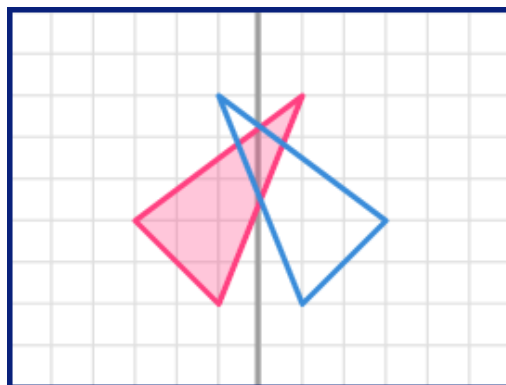
$$\frac{x}{3} + 5 = 9 \quad x = 12$$

4) What is the circumference of the circle below? Give your answer to 2 decimal places.

62.83cm



5) Reflect the triangle in the line of symmetry.



## Week 4: Day 4

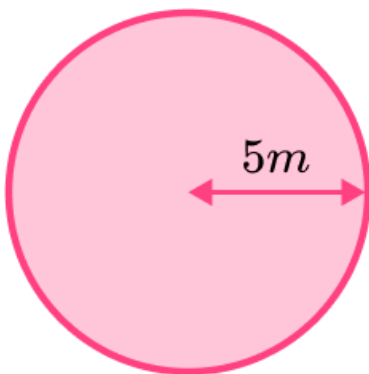
1) Express 17 out of 10 as a percentage.

2) Six tins of paint contain 9l. How many litres do five tins of paint contain?

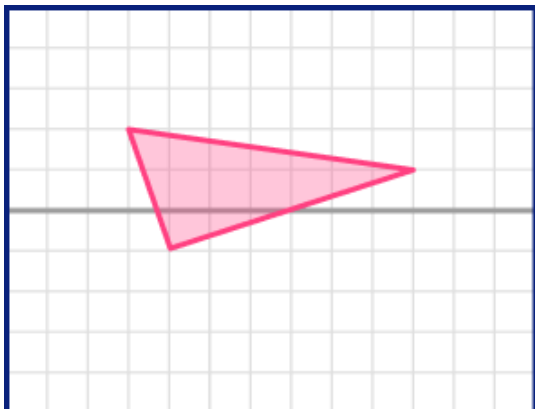
3) Solve::

$$13 = 4x + 7$$

4) What is the circumference of the circle below? Give your answer to 2 decimal places.



5) Reflect the triangle in the line of symmetry.





## Week 4: Day 4 Answers

1) Express 17 out of 10 as a percentage. **170%**

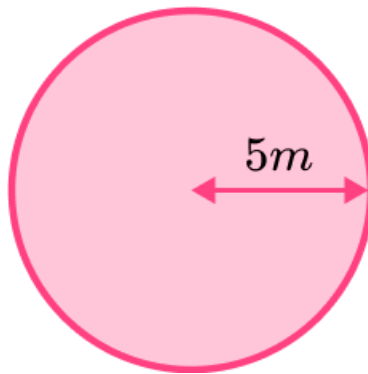
2) Six tins of paint contain 9l. How many litres do five tins of paint contain?  
**7.5 litres**

3) Solve:

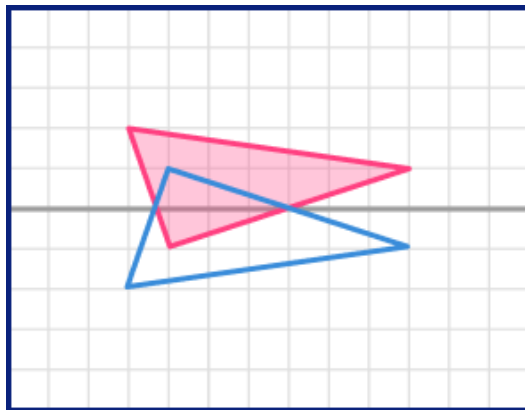
$$13 = 4x + 7 \quad x = 1.5$$

4) What is the circumference of the circle below? Give your answer to 2 decimal places.

**31.42m**



5) Reflect the triangle in the line of symmetry.



## Week 4: Day 5

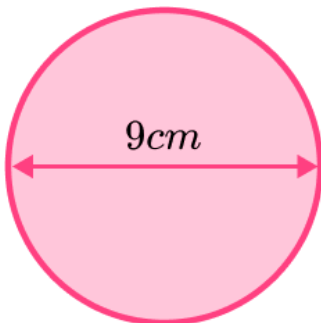
1) Express 67 out of 500 as a percentage.

2) Eight shirts cost £200. How much do five shirts cost?

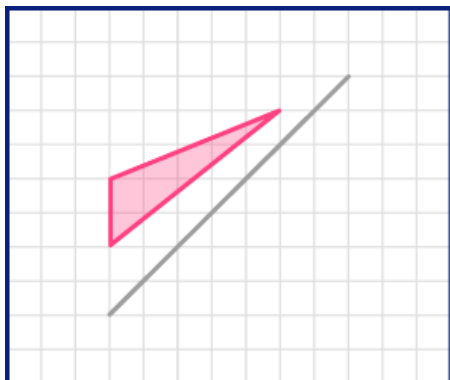
3) Solve:

$$13 - 2x = 9$$

4) What is the circumference of the circle below? Give your answer to 2 decimal places.



5) Reflect the triangle in the line of symmetry.



## Week 4: Day 5 Answers

1) Express 67 out of 500 as a percentage. 13.4%

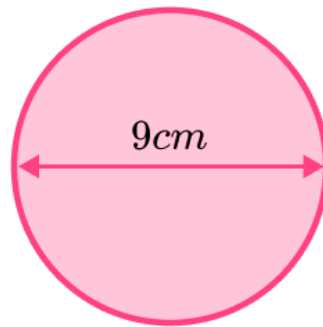
2) Eight shirts cost £200. How much do five shirts cost? £125

3) Solve:

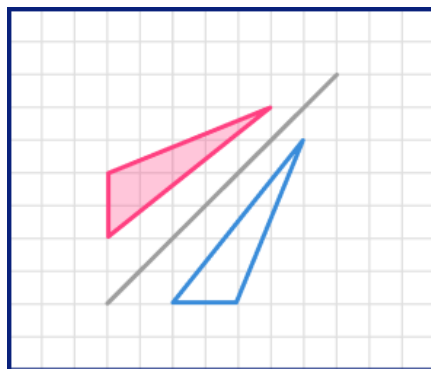
$$13 - 2x = 9 \quad x = 2$$

4) What is the circumference of the circle below? Give your answer to 2 decimal places.

28.27cm



5) Reflect the triangle in the line of symmetry.



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