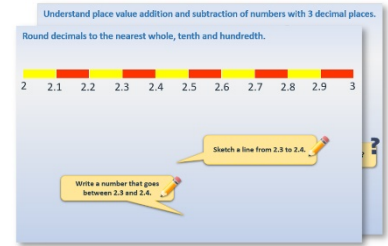


Year 4: Week 4, Day 4

Polygons

Each day covers one maths topic. It should take you about 1 hour or just a little more.

1. Start by reading through the **Learning Reminders**. They come from our *PowerPoint* slides.



2. Tackle the questions on the **Practice Sheet**. There might be a choice of either **Mild** (easier) or **Hot** (harder)! Check the answers.

Practice Sheet (Mild)

Place value addition and subtraction

1. $4.538 + 0.2$	2. $4.538 + 0.03$
3. $4.538 - 0.004$	4. $4.538 - 0.02$
5. $6.231 + 0.11$	6. $6.231 + 0.101$
7. $6.231 + 0.011$	8. $5.846 - 0.211$
9. $5.846 - 0.13$	10. $5.846 - 0.013$
11. $5.846 - 0.204$	12. $4.789 + 0.001$

Challenge

Start at 4.542. Add tenths and hundredths to make an addition chain ending with the number 4.627. Start at 10.349. Subtract tenths, hundredths and thousandths to make a subtraction chain ending with the number 9.782.

3. Finding it tricky? That's OK... have a go with a grown-up at **A Bit Stuck?**

Deduce the decimal

Activity 1

What you need:

- 100 different coloured pencils
- A place value chart
- A pencil

What to do:

- Think about your partner, write down a number with three decimal places like 0.123
- Use a coloured pencil to shade numbers on the place value chart which add to make your number.
- Show your partner the chart.
- Your partner looks at the shaded numbers and writes the completed number.
- Does what they have written, match your number?
- Swap roles and repeat!
- Use a different coloured pencil to shade numbers on the place value grid. Numbers already shaded cannot be re-used.

100s | 10s | 0001s

100s | 10s | 0001s

100s | 10s | 0001s

100s | 10s | 0001s

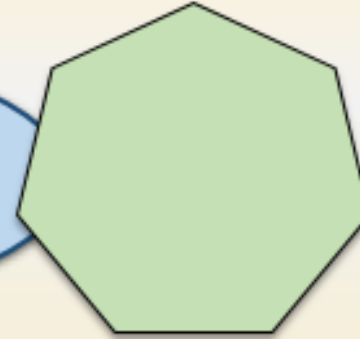
4. Think you've cracked it? Whizzed through the Practice Sheets? Have a go at the **Investigation...**

Learning Reminders

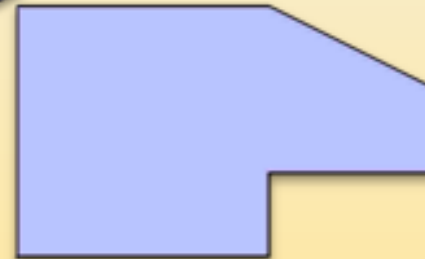
Draw different polygons; identify their properties.

A closed shape with
7 straight sides and
7 vertices is called a
heptagon.

This is a **regular heptagon.**
All 7 sides are the same
length and all angles are
the same size.



These are
irregular heptagons.



Learning Reminders

Draw different polygons; identify their properties.



Is this a heptagon?

It has 7 straight sides BUT polygons have straight sides and are **closed**.



Is this a heptagon?

No, it's a pentagon because it has **5** straight sides.

Practice Sheet Mild

Shape properties

Draw a shape to match each description. Write the name of your shape.

1)

Name: _____

Has four sides, all four sides are the same length, and has four right angles.

2)

Name: _____

Has six sides, all six sides are the same length, and has six obtuse angles.

3)

Name: _____

Has five sides and one line of symmetry.

4)

Name: _____

Has seven sides, has two right angles and no lines of symmetry.

5)

Name: _____

Has five sides, all five sides are the same length, and has at least one line of symmetry.

6)

Name: _____

Has eight vertices and no lines of symmetry.

7)

Name: _____

Has seven vertices, has seven sides all the same length, has no acute angles or right angles.

8)

Name: _____

Has six sides and six vertices, has three right angles.

Practice Sheet Hot

Shape properties

Draw a shape to match each description, and write the name of your shape.

1)

Name: _____

Has five sides, all five sides are the same length, and has at least one line of symmetry.

2)

Name: _____

Has eight vertices and has no lines of symmetry.

3)

Name: _____

Has seven vertices, has seven sides all the same length, and has no acute angles or right angles.

4)

Name: _____

Has six sides and six vertices, and has three right angles.

5)

Name: _____

Has six vertices, has two acute angles and three obtuse angles.

6)

Name: _____

Has five sides, has one right angle and one line of symmetry.

7)

Name: _____

Has eight sides and eight vertices, all eight sides are the same length, and has at least one line of symmetry.

8)

Name: _____

Has seven vertices, and has one line of symmetry.

Practice Sheet Answers

Shape properties (mild)

1. Square



2. Regular hexagon



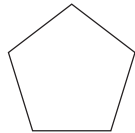
3. Irregular pentagon
e.g.



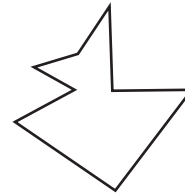
4. Irregular heptagon
e.g.



5. Regular pentagon
e.g.



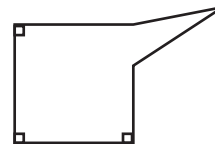
6. Irregular octagon
e.g.



7. Regular heptagon
e.g.

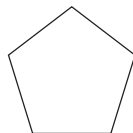


8. Irregular hexagon
e.g.

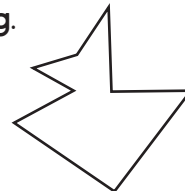


Shape properties (hot)

1. Regular pentagon
e.g.



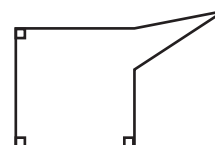
2. Irregular octagon
e.g.



3. Regular heptagon
e.g.

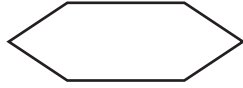


4. Irregular hexagon
e.g.

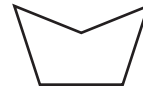


Shape properties (hot) continued

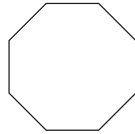
5. Irregular hexagon
e.g.



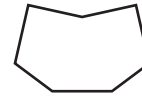
6. Irregular pentagon
e.g.



7. Octagon
e.g.



8. Irregular heptagon

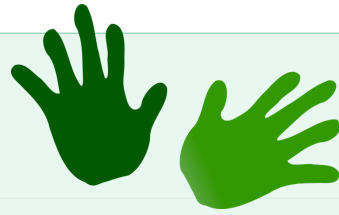


A Bit Stuck? Ask the angle!

Work in pairs

Things you will need:

- A right angle measure (the corner of a rectangular sheet of paper or book will work)
- A pencil

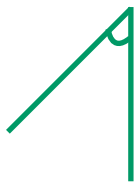


What to do:

- Use your right angle measure to test if each angle is acute, obtuse or a right angle. Ring the correct description for each angle.



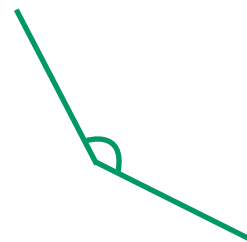
acute/right angle/obtuse



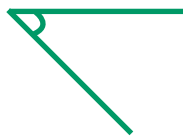
acute/right angle/obtuse



acute/right angle/obtuse



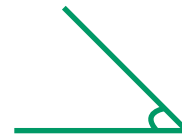
acute/right angle/obtuse



acute/right angle/obtuse



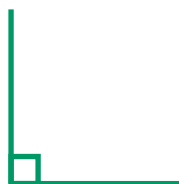
acute/right angle/obtuse



acute/right angle/obtuse



acute/right angle/obtuse



acute/right angle/obtuse



acute/right angle/obtuse

S-t-r-e-t-c-h:

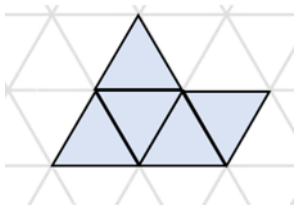
Investigate by drawing, how many acute angles it is possible to have in a triangle.
How many right angles do you think can be in a triangle?
How many obtuse angles do you think can be in a triangle?

Learning outcomes:

- I can identify acute, right and obtuse angles.
- I am beginning to draw acute, right and obtuse angles.

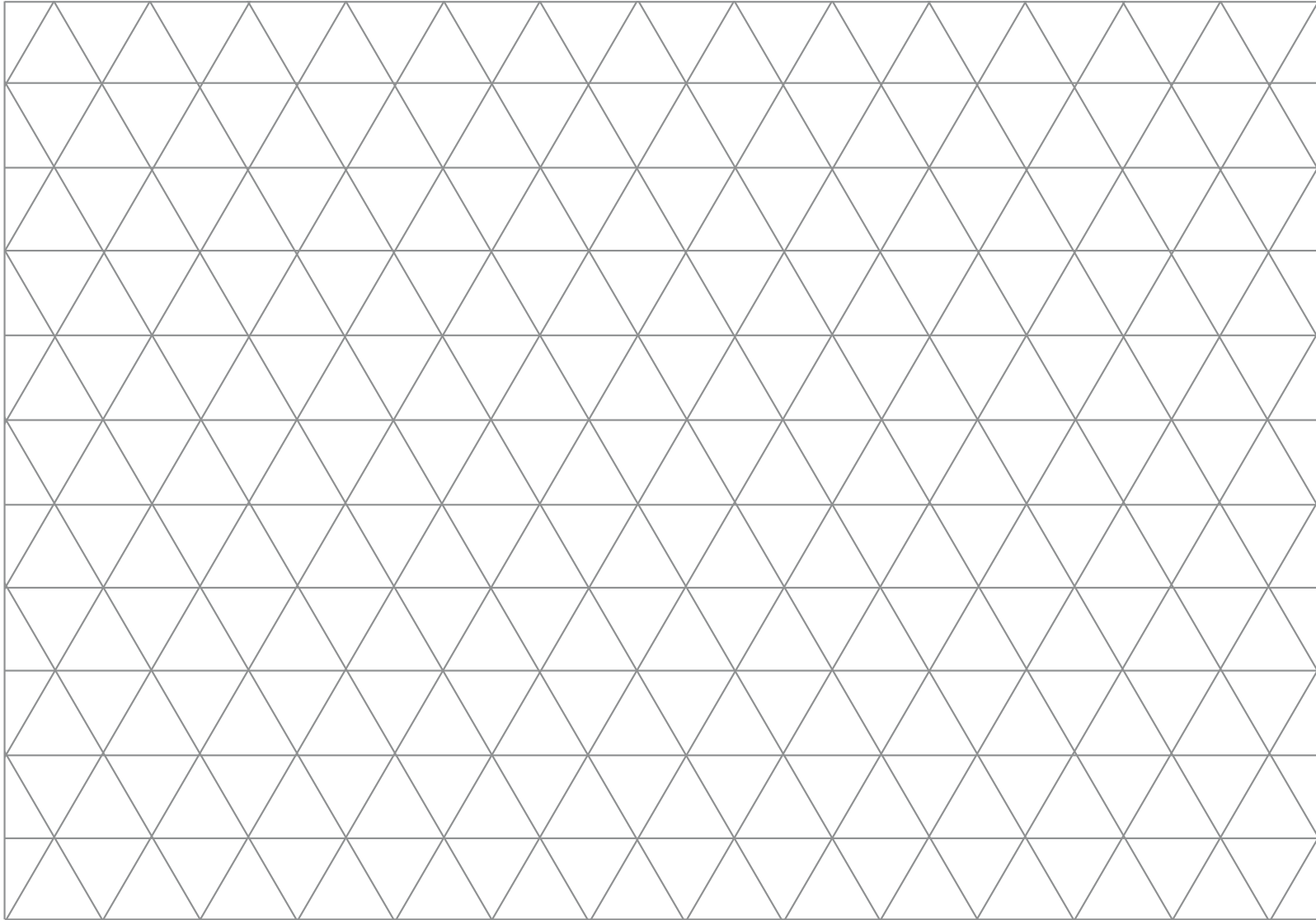
Investigation

1. Investigate how many different polygons you can make by drawing five equilateral triangles next to one another on isometric paper.
2. Compare your shapes and eliminate any repeats: reflections and rotations count as repeats – cutting out shapes may be useful as they'll be easier to turn around or flip over.
3. Name each shape. Decide whether it is **regular** or not.
4. If it is not regular, decide whether it is **symmetrical** or not, e.g.



pentagon: irregular, no lines of symmetry

Investigation Resource



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50
100 99 98 97 96 95 94 93 92 91 90 89 88 87 86 85 84 83 82
81 80 79 78 77 76 75 74 73 72 71 70 69 68 67 66 65 64 63 62 61 60 59 58 57 56 55 54 53 52 51