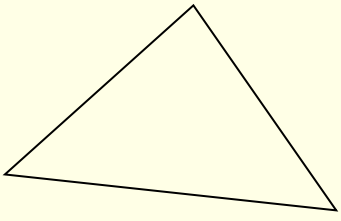
Skillsheet 4-01

Naming shapes

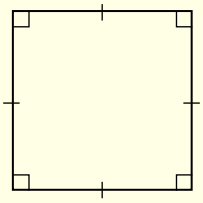
Plane shapes

Plane shapes are flat and are also called two-dimensional (2-D) shapes. They are two-dimensional because they have length and breadth (width), but not thickness (or height).

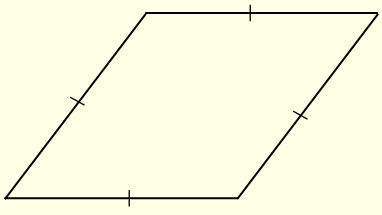
You should know the names of the following shapes:



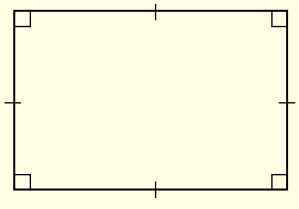
Triangle
(Three sides)



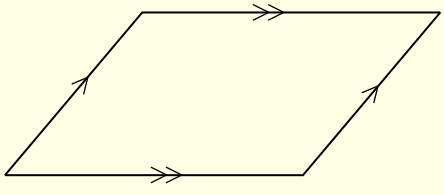
Square
(Four equal sides, four right angles)



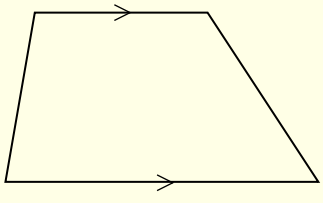
Rhombus
(Four equal sides)



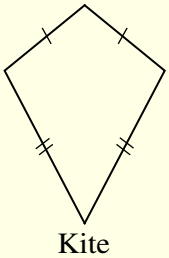
Rectangle
(Opposite sides equal, four right angles)



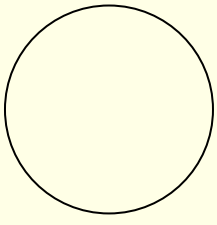
Parallelogram
(Opposite sides parallel)



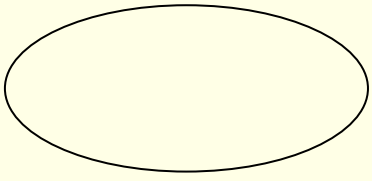
Trapezium
(One pair of parallel sides)



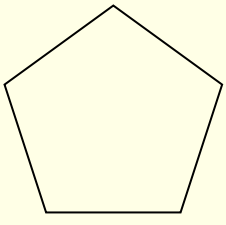
Kite
(Two pairs of equal adjacent sides)



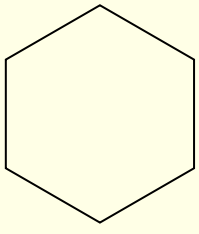
Circle



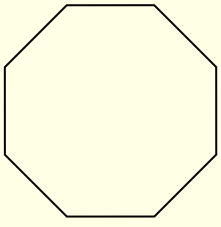
Ellipse
(oval)



Pentagon
(Five sides)



Hexagon
(Six sides)

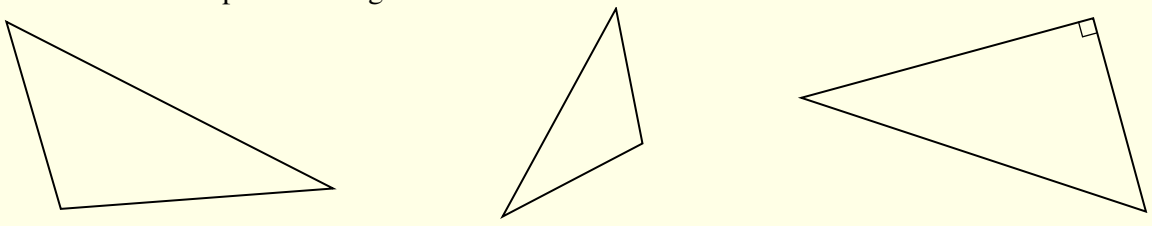


Octagon
(Eight sides)

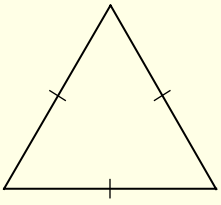
Skillsheet 4-01 Naming shapes *continued*

Triangles

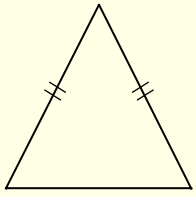
Any plane shape with three sides is called a **triangle**.
Here are some examples of triangles:



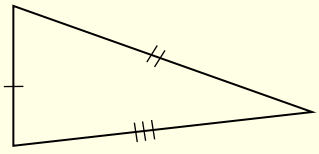
An **equilateral triangle** has three equal sides.



An **isosceles triangle** has two equal sides.

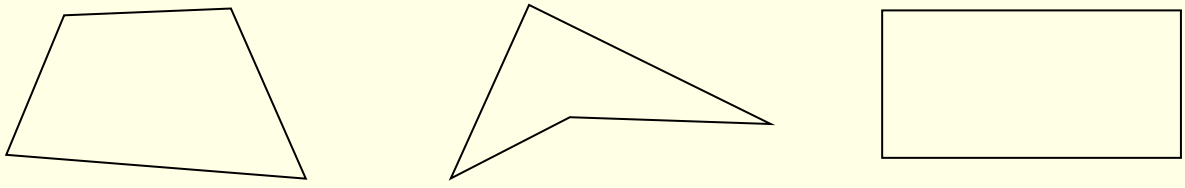


A s**calene triangle** has no equal sides.



Quadrilaterals

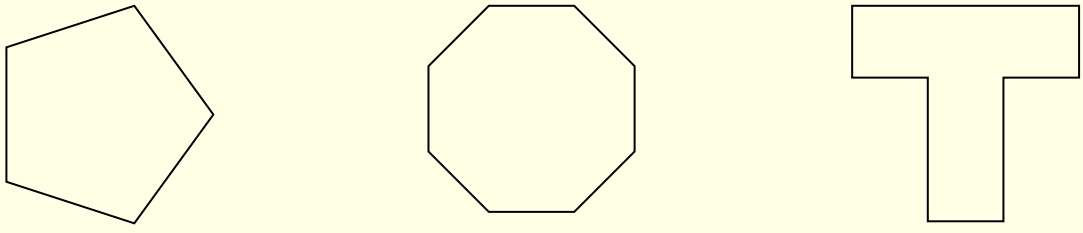
Any plane shape with four sides is called a **quadrilateral**.
Here are some examples of quadrilaterals:



The square, rhombus, rectangle, parallelogram, trapezium and kite are all examples of quadrilaterals because they each have four sides.

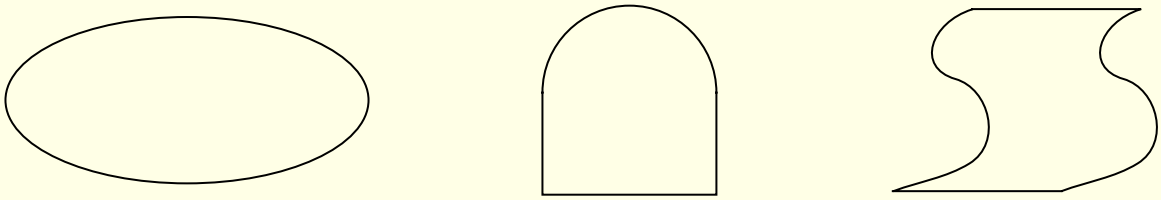
Polygons

The general name for any plane shape with straight sides is '**polygon**'.
Here are some examples of polygons:



Skillsheet 4-01 Naming shapes *continued*

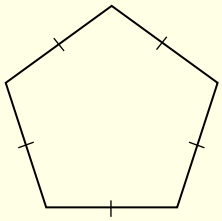
The following shapes are *not* polygons:



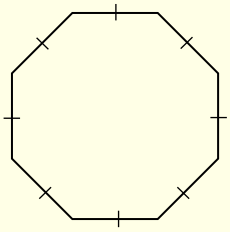
Triangles, quadrilaterals, pentagons, hexagons and octagons are all examples of polygons because they have straight sides.

A ***regular* polygon** has all sides equal and all angles equal.

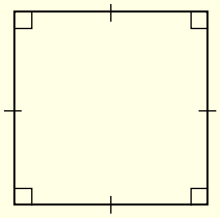
Here are some examples of regular polygons:



Regular pentagon
(Five equal sides and five equal angles)

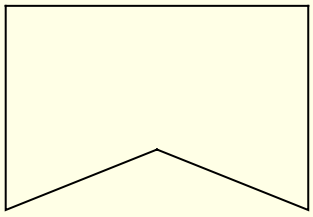


Regular octagon
(Eight equal sides and eight equal angles)

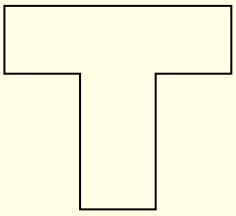


Square
(Four equal sides and four equal angles)

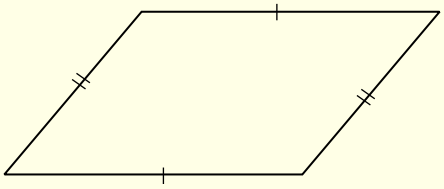
Here are some examples of non-regular polygons:



Pentagon
(Five sides)



Octagon
(Eight sides)

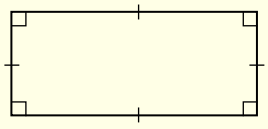


Parallelogram
(Four sides)

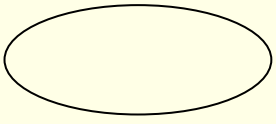
Exercises

1 Name each of these shapes.

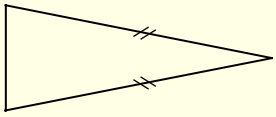
a



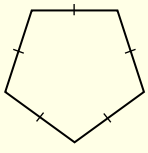
b



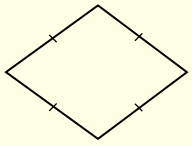
c



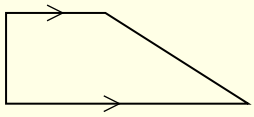
d



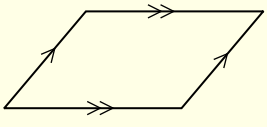
e



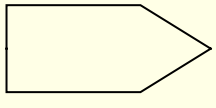
f



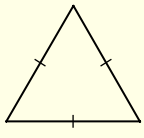
g



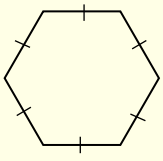
h



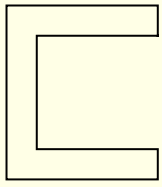
i



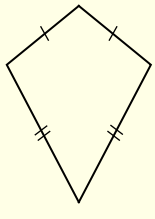
j



k



l

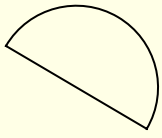


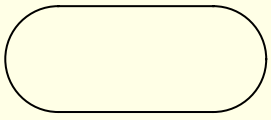
Skillsheet 4-01 Naming shapes *continued*

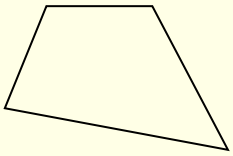
2 How many straight sides has:

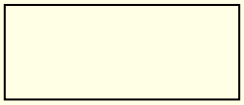
a a trapezium? **b** a triangle? **c** an octagon?
d a quadrilateral? **e** a hexagon? **f** an ellipse?
g a kite? **h** a pentagon? **i** a rhombus?

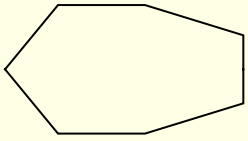
3 Which of the following shapes are polygons?

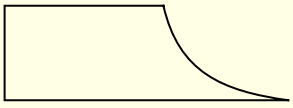
a 

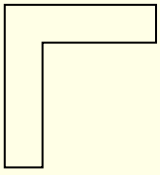
b 

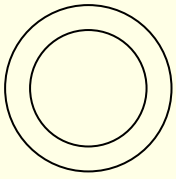
c 

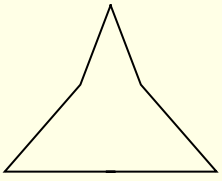
d 

e 

f 

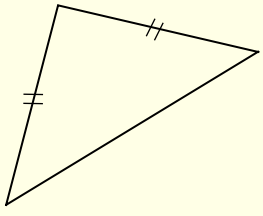
g 

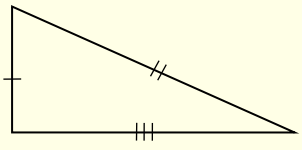
h 

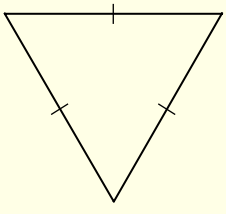
i 

4 Which of the shapes in Question **3** are quadrilaterals?

5 Name these triangles:

a 

b 

c 

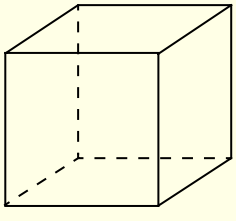
6 Draw:

a a trapezium **b** a regular hexagon **c** a non-regular pentagon
d a scalene triangle **e** a non-regular hexagon **f** a regular octagon

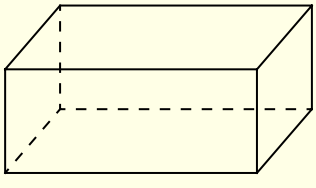
Solid shapes

Solid shapes or solids can also be called three-dimensional (3-D) shapes. They are three-dimensional because they have length, breadth and thickness (or height).

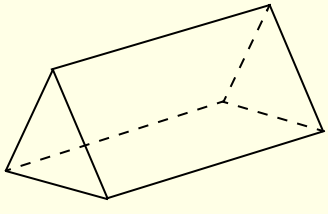
You should know the names of the following solids:



Cube

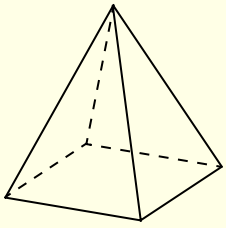


Rectangular prism

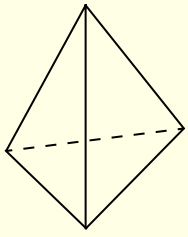


Triangular prism

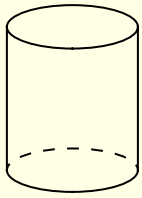
Skillsheet 4-01 Naming shapes *continued*



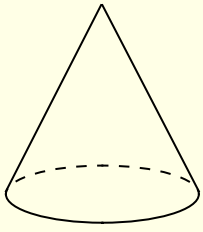
Square pyramid



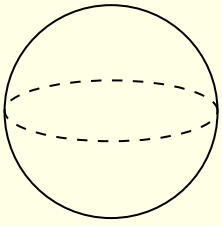
Triangular pyramid



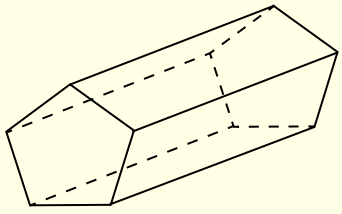
Cylinder



Cone



Sphere



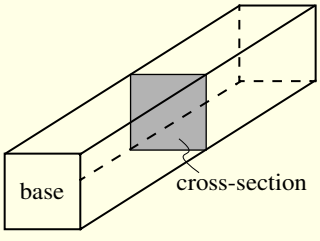
Pentagonal prism

Prisms

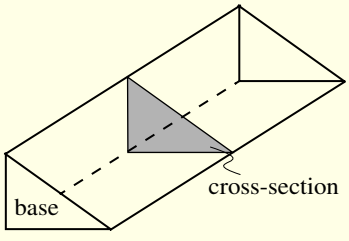
A **prism** is a 'box-shaped' solid whose end faces are identical polygons that are parallel. Either of the end faces is called the **base** of the prism.

A flat 'slice' of a solid cut across the solid is called a **cross-section** of the solid. A prism has identical cross-sections along its length, that are the same shape and size as its base. A prism is named according to the shape of its base.

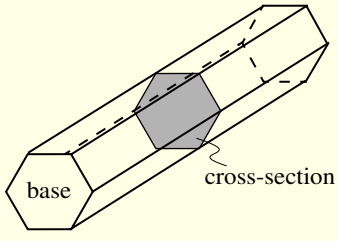
Here are some examples of prisms:



Square prism



Triangular prism

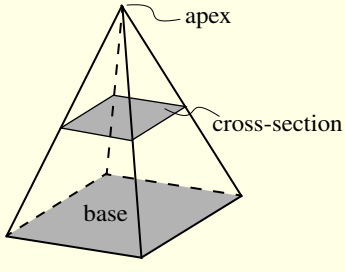


Hexagonal prism

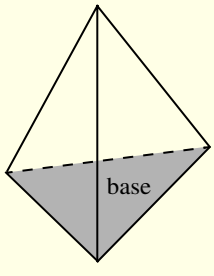
Pyramids

A pyramid is a solid whose side faces are triangles that meet at the top vertex called the **apex** of the pyramid. The bottom face, opposite the apex, is called the **base** of the pyramid. A pyramid is named according to the shape of its base.

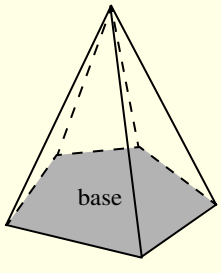
Here are some examples of pyramids:



Square pyramid



Triangular pyramid

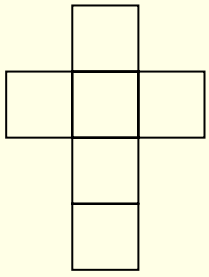


Pentagonal pyramid

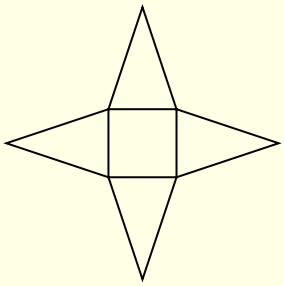
Skillsheet 4-01 Naming shapes *continued*

Nets of solids

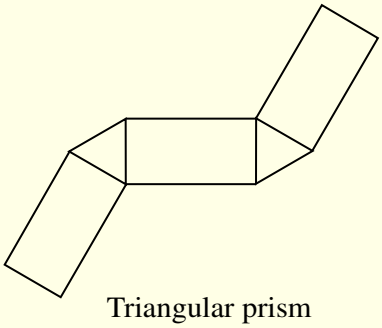
The net of a solid is a flat pattern of the faces that can be folded together to make that solid.
Here are some examples of nets of solids:



Cube



Square pyramid

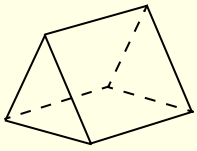


Triangular prism

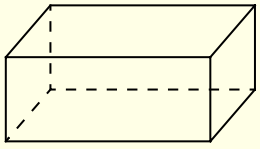
Exercises

7 Name each of these solids.

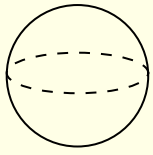
a



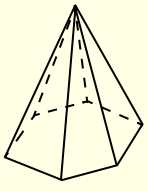
b



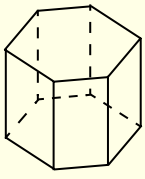
c



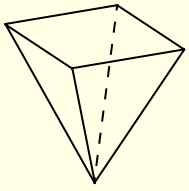
d



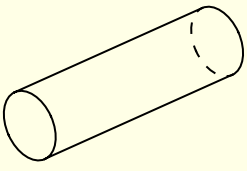
e



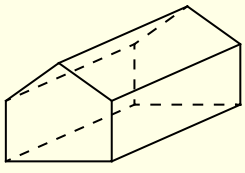
f



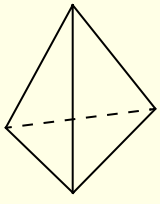
g



h

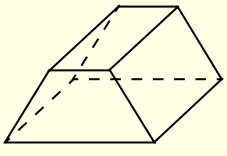


i



8 Draw a cross-section of each of these solids.

a



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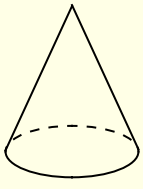

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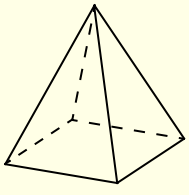

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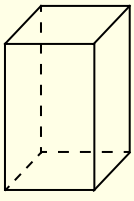
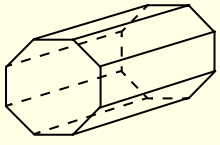


e



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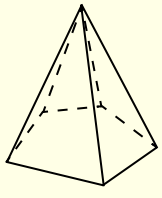

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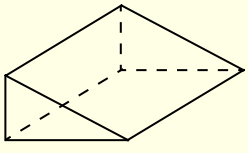

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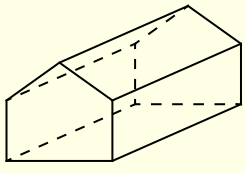

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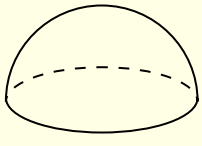


Skillsheet 4-01 Naming shapes *continued*

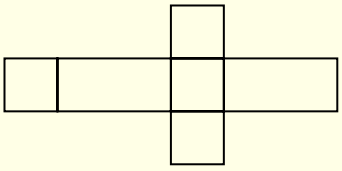
9 Which of the shapes in Question **8**:

a are prisms? **b** are pyramids?

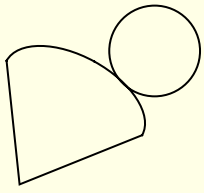
10 From the following list, choose a solid to match each of the nets shown below.

triangular pyramid cone cube trapezoidal prism rectangular pyramid square prism

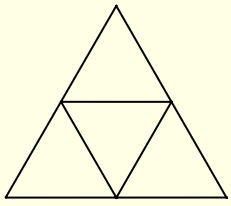
a



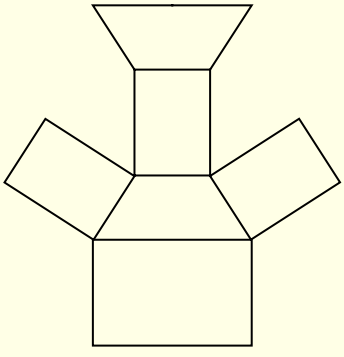
b



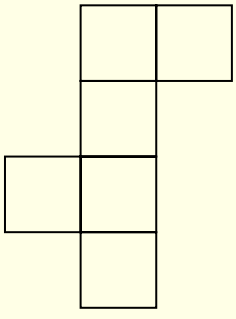
c



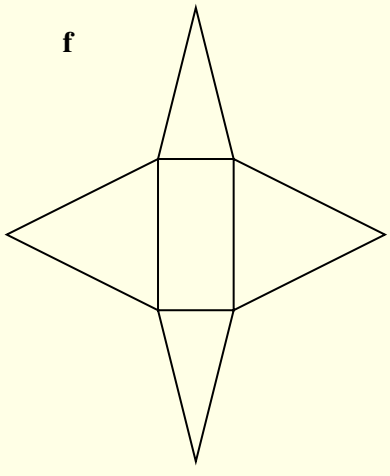
d



e



f



Skillsheet 4-01 Naming shapes *continued*

Answers

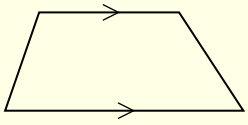
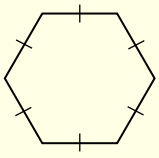
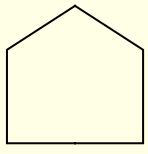
1 **a** rectangle **b** ellipse **c** isosceles triangle **d** regular pentagon
e rhombus **f** trapezium **g** parallelogram **h** pentagon
i equilateral triangle **j** regular hexagon **k** octagon **l** kite

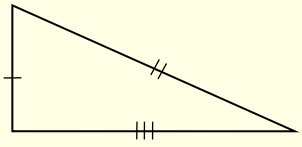
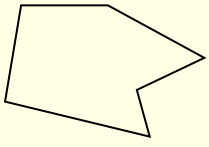
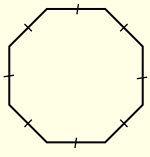
2 **a** 4 **b** 3 **c** 8 **d** 4
e 6 **f** 0 **g** 4 **h** 5
i 4

3 c, d, e, g, i

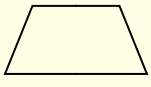
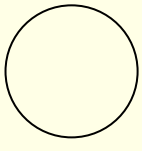
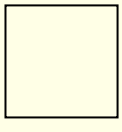
4 c, d

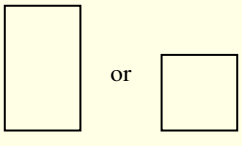
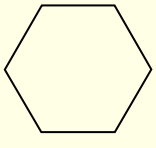
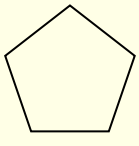
5 **a** isosceles triangle **b** scalene triangle **c** equilateral triangle

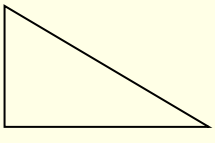
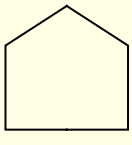
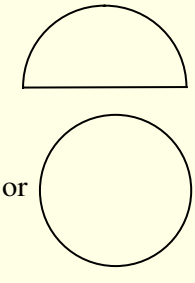
6 **a**  **b**  **c** 

d  **e**  **f** 

7 **a** triangular prism **b** rectangular prism or square prism **c** sphere
d hexagonal pyramid **e** hexagonal prism **f** rectangular pyramid
g cylinder **h** pentagonal prism **i** triangular pyramid

8 **a**  **b**  **c** 

d  **e**  **f** 

g  **h**  **i** 

9 **a** a, d, e, g, h **b** c, f

10 **a** square prism **b** cone **c** triangular pyramid
d trapezoidal prism **e** cube **f** rectangular pyramid