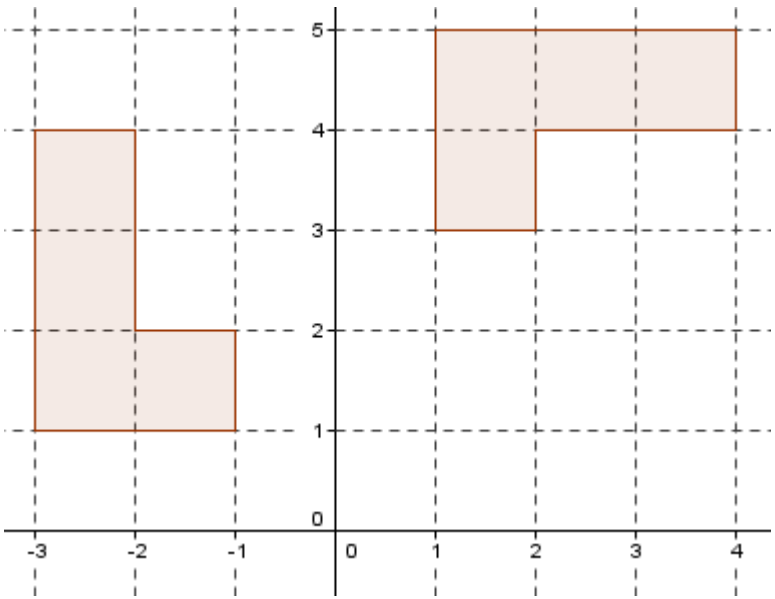
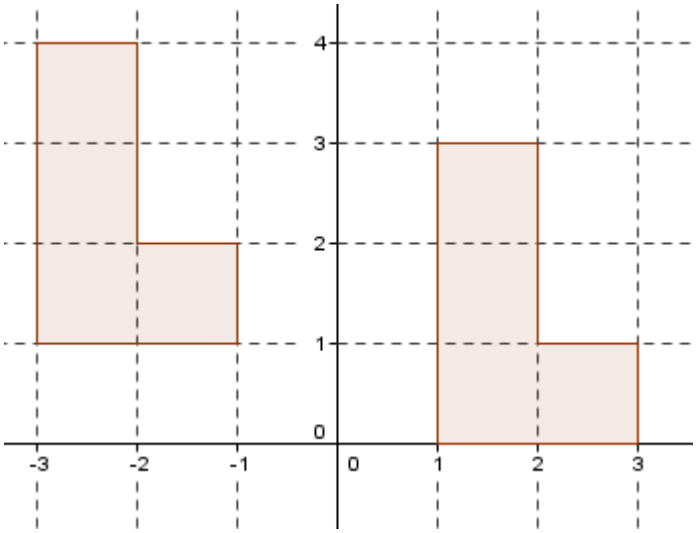
Flip

Describe the following **single** transformations



(a)



(b)

Previous

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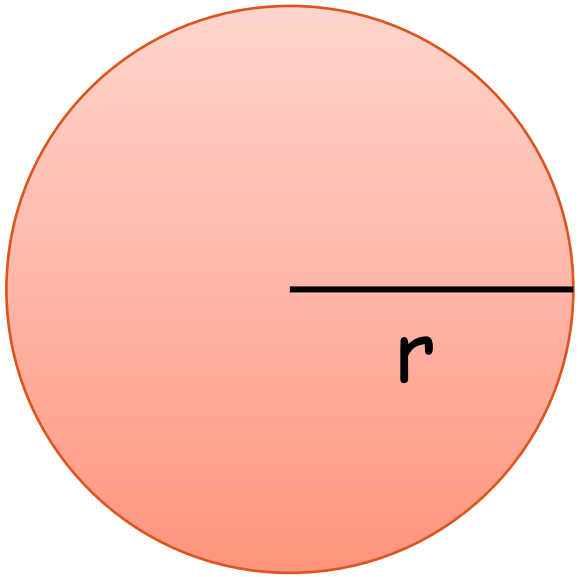
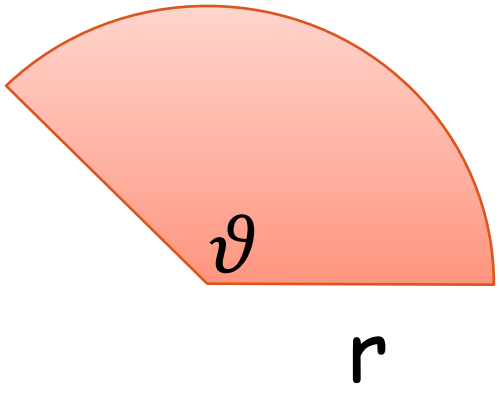
Flip

(a)



(b)



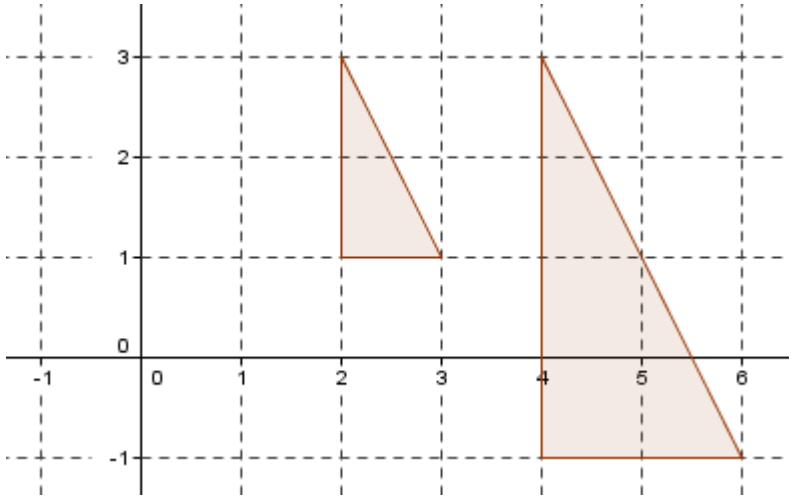
Area of a circle

Area of a sector

Flip

(a)

How do you find the centre of enlargement?



(b)

What does scale factor $-\frac{1}{2}$ mean?

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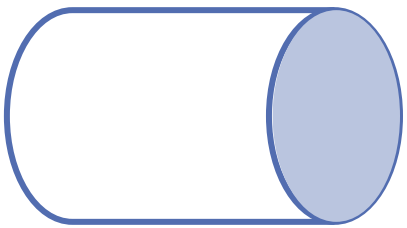
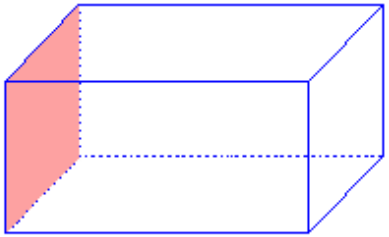
Flip

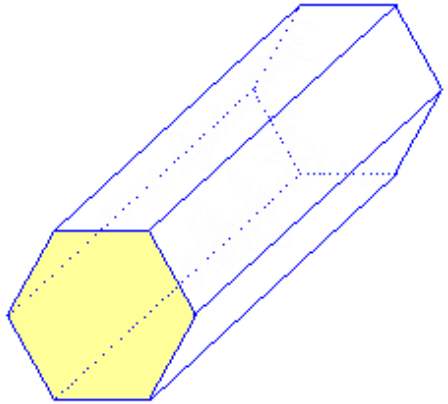
How do you find the volume of a prism?



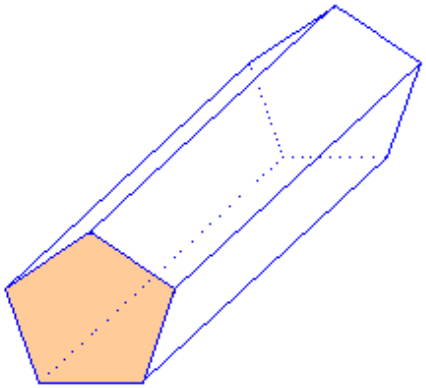
cylinder



Rectangular prism



Hexagonal prism



Pentagonal prism

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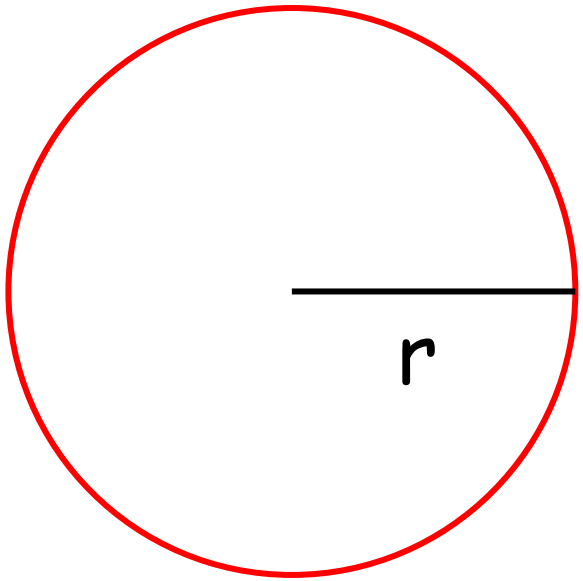
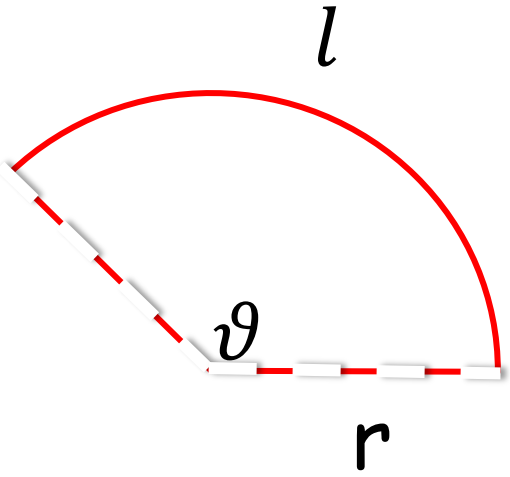
Flip

(a)



Circumference of a circle

(b)



Length of arc

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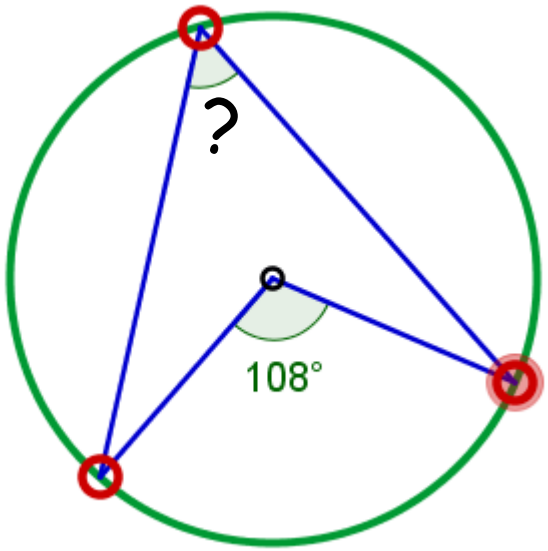
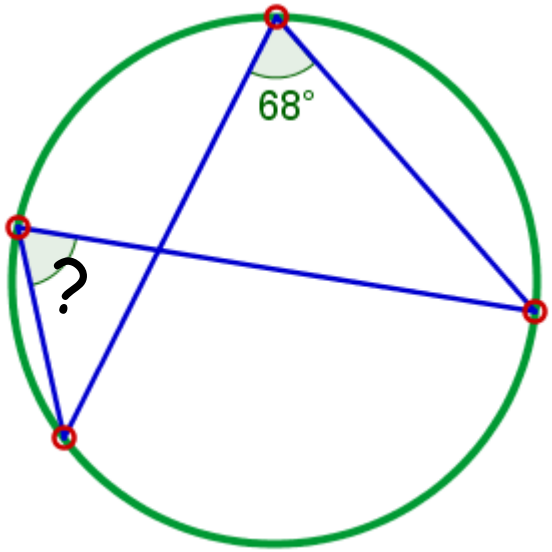
Flip

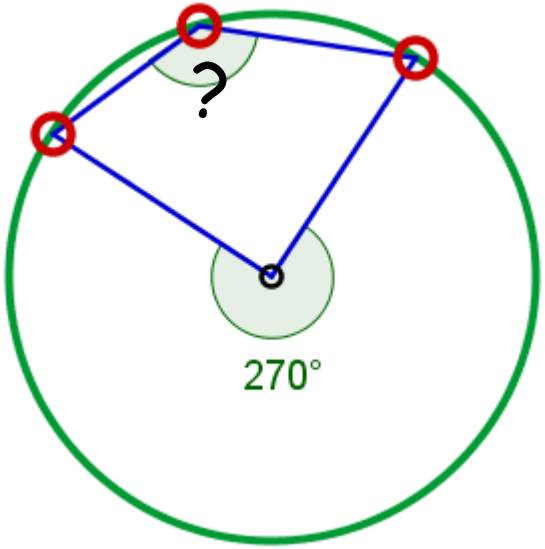
Which circle theorems would you use:



(a)



(b)



(c)

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Flip

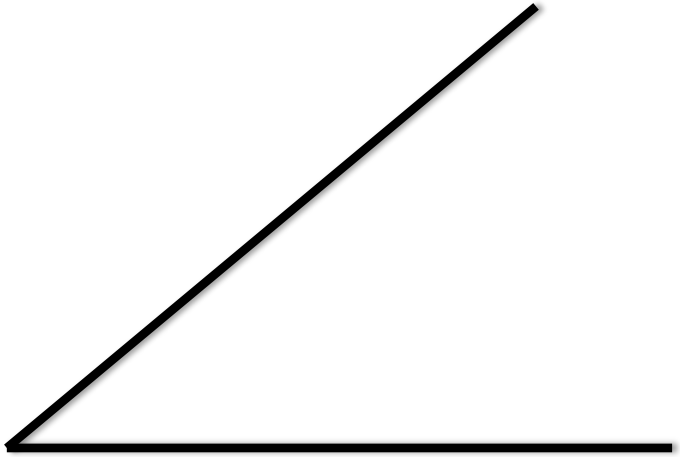
How do you construct a perpendicular bisector of a line?

Previous

Next

Flip

How do you bisect an angle?



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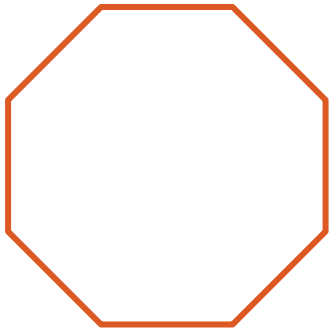
Flip

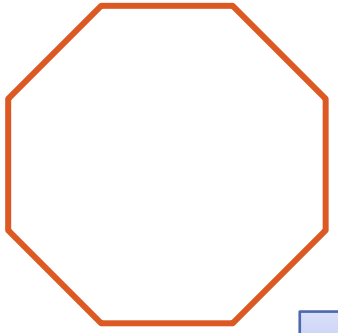
(a)

How do you calculate exterior angles?



(b)

How do you calculate interior angles?



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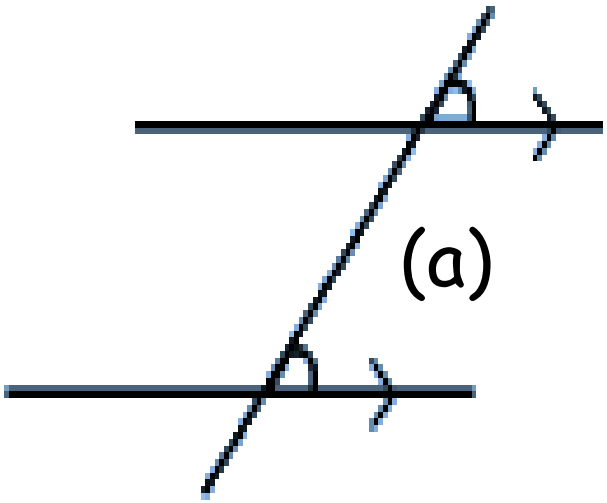
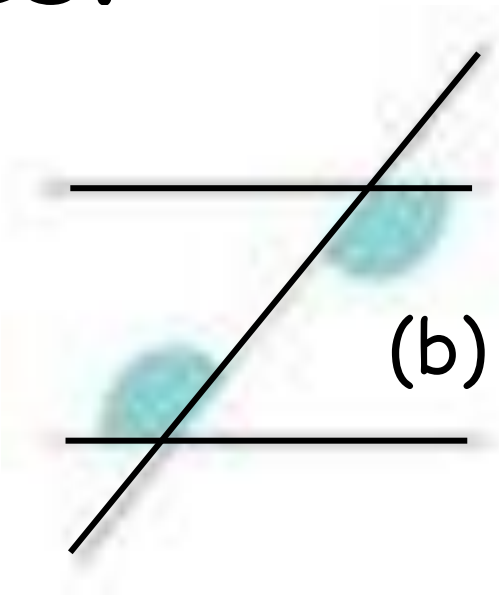
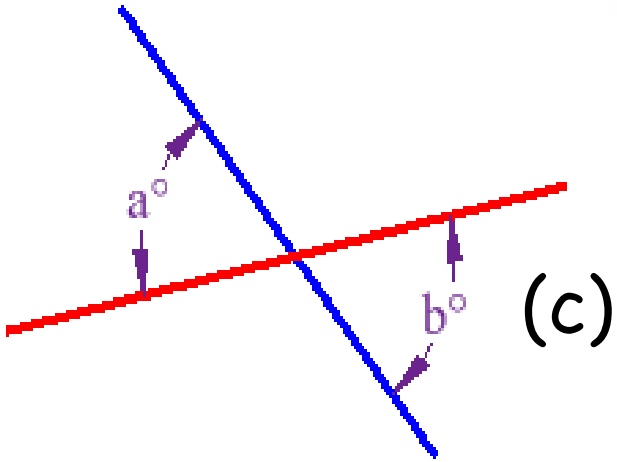
What do you call these pairs of equal angles?







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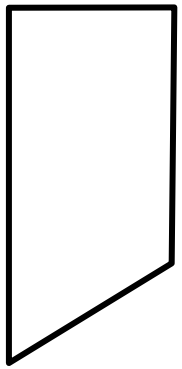
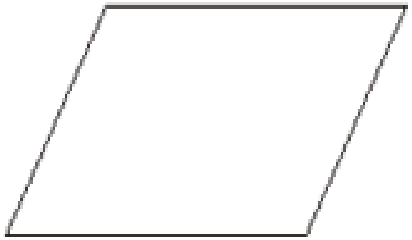
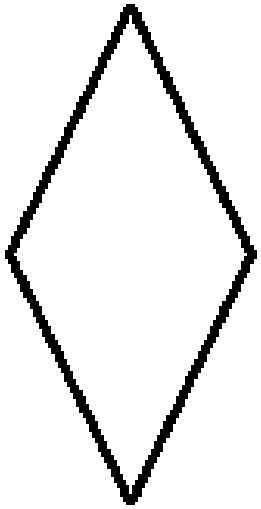
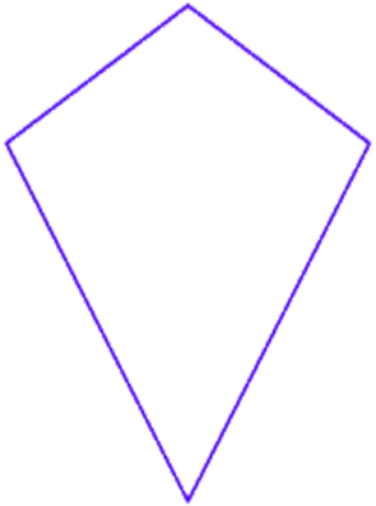
Flip

Name the following shapes



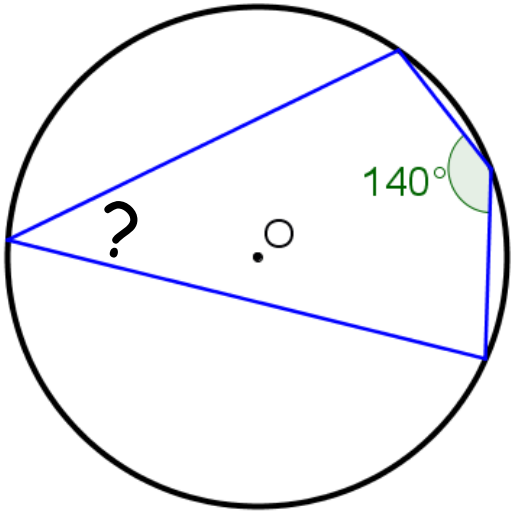




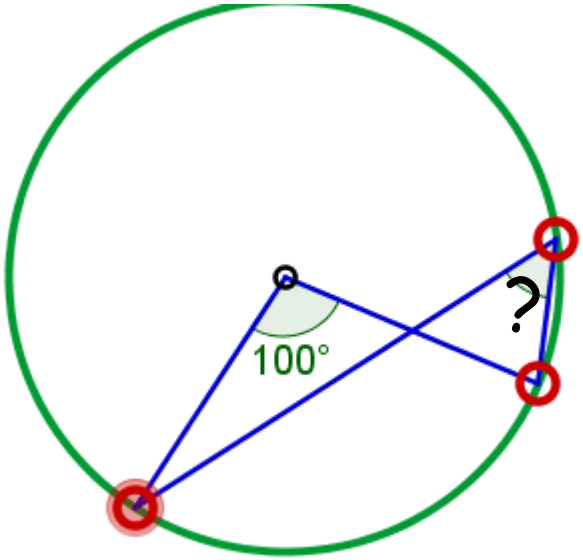


Flip

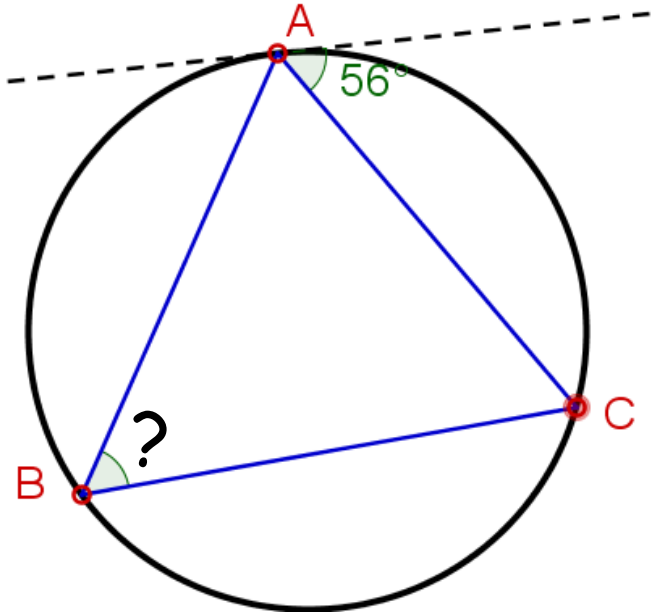
Which circle theorems would you use:



(a)



(b)



(c)

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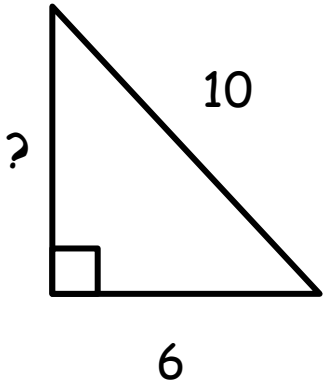
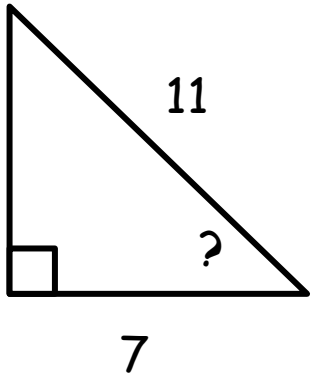
Flip

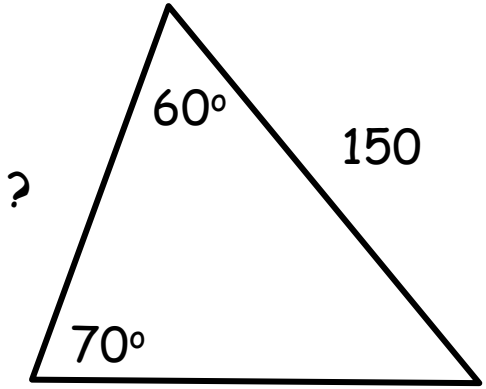
Which rules would you use to solve the following:



(a)



(b)



(c)

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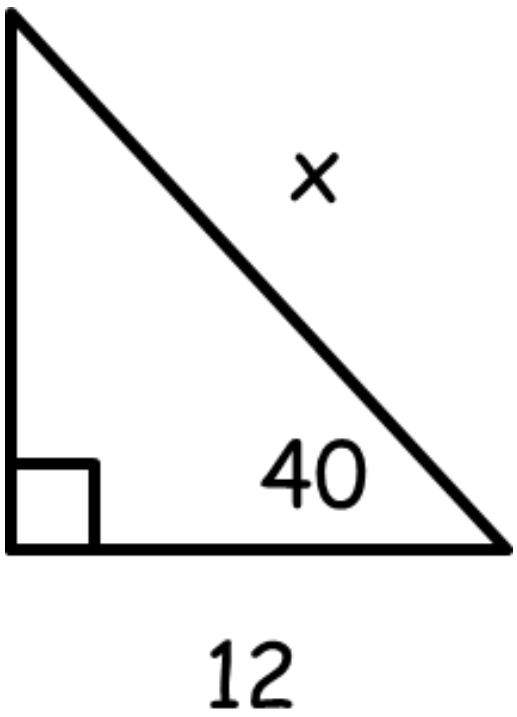
Find the missing length:



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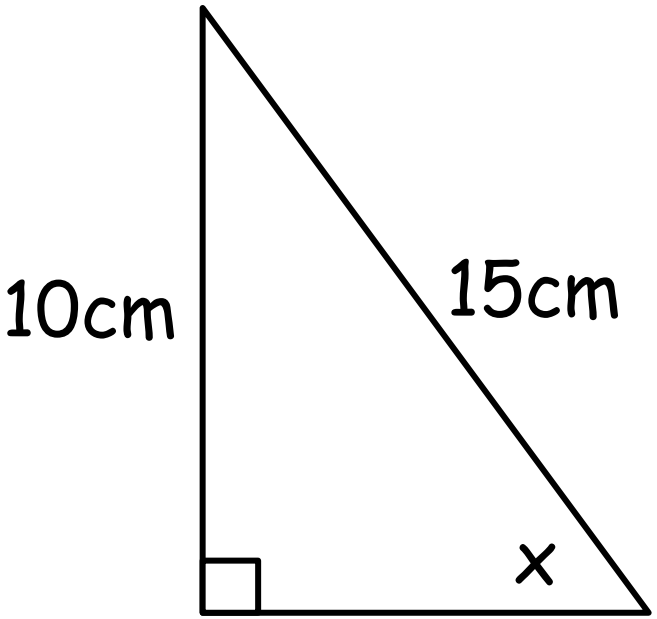
How would you find angle x?



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Pythagoras' theorem says….

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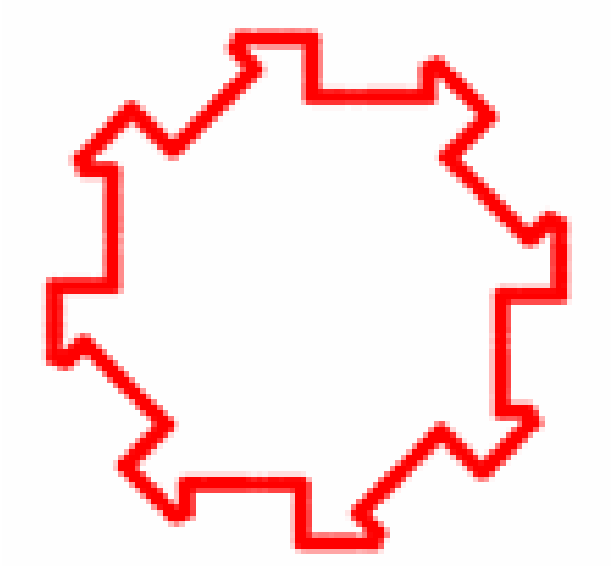
What is order of rotational symmetry?



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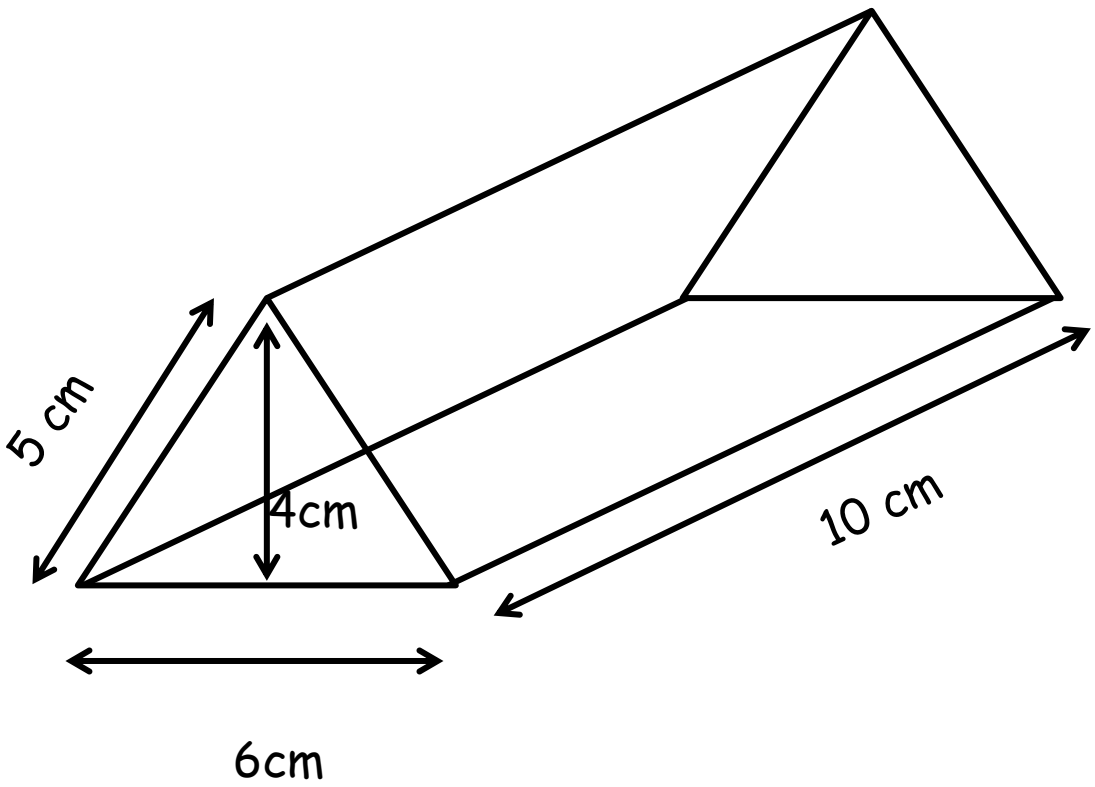
How do you calculate surface area?



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How are bearings measured?

(3 key points)

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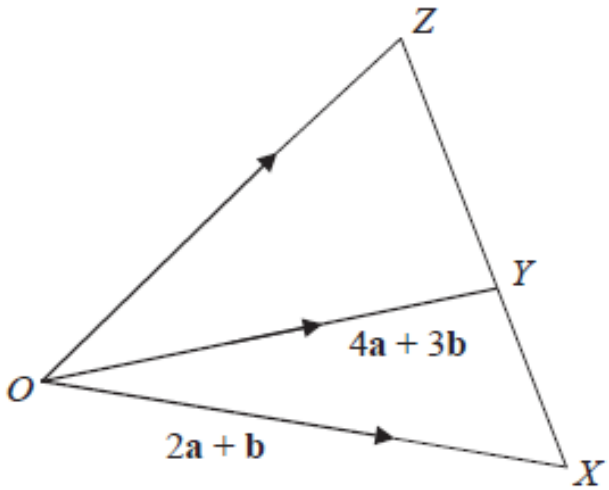
How would you calculate XY?



XYZ is a straight line.
$XY : YZ = 2 : 3$

How would you calculate XZ?

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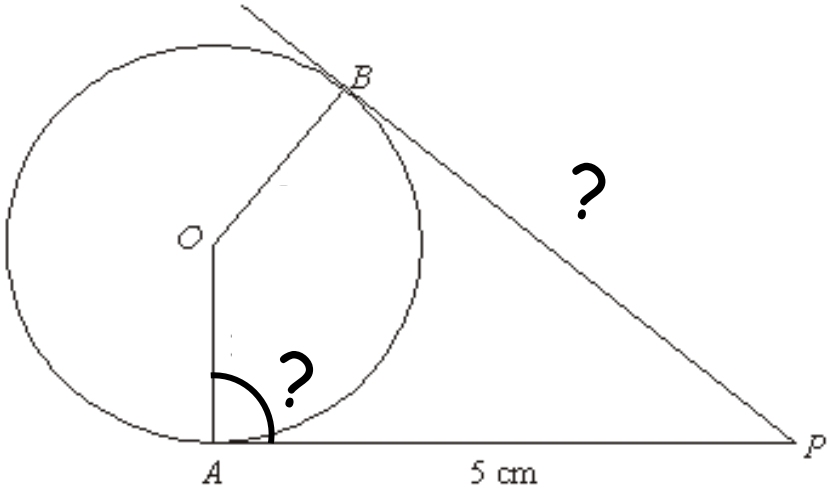
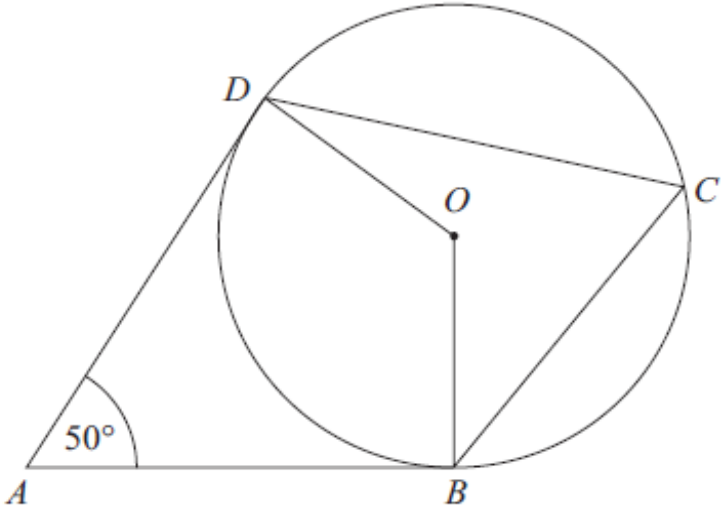
Flip

Which circle theorems would you use:



(a)

$B\hat{C}D$=?



(b)

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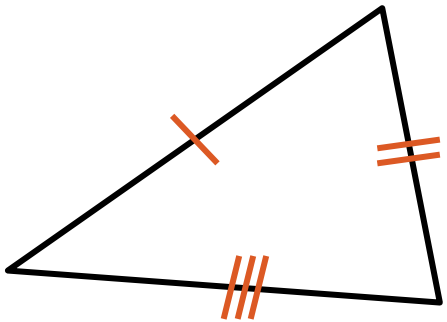
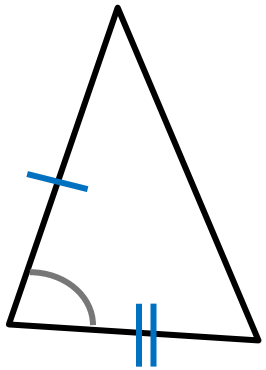
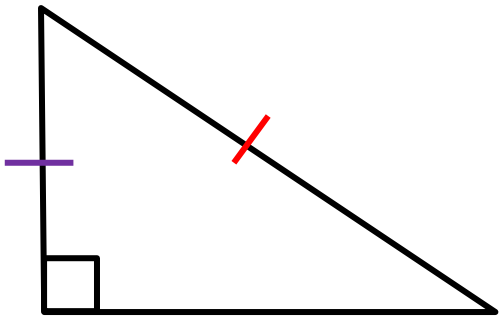
Flip

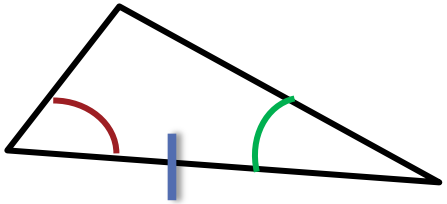
What are the 5 ways to identify congruent triangles?

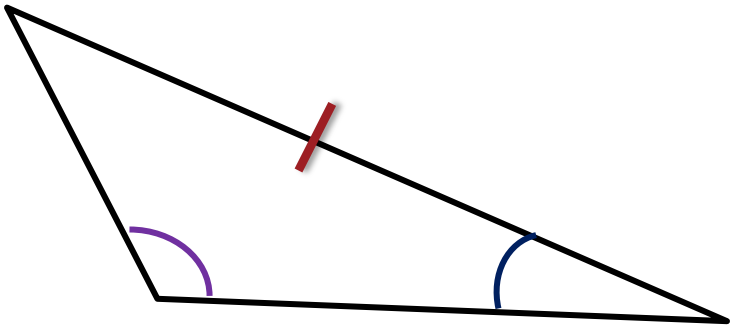
Pictures give hints, and are not congruent to each other!











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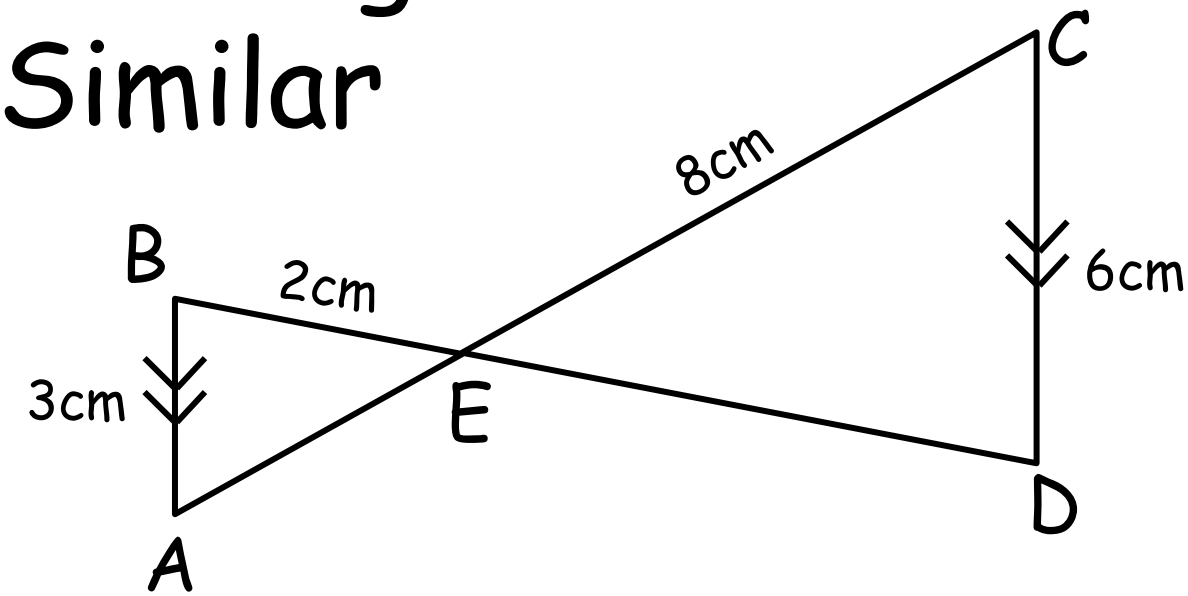
Flip

Prove triangles ABE and CDE Are Similar



Which pairs of sides are in proportion?

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Flip

How would you prove that 3 points, A, B and C, lie on a straight line?

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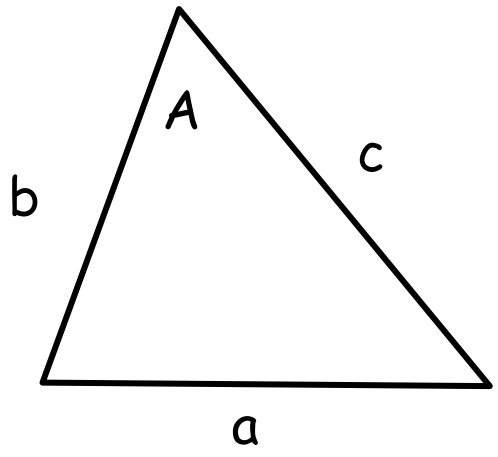
Flip

The cosine rule:

$$a^2 = b^2 + c^2 - 2bcCosA$$



How could you use to find angle A?

Previous

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Flip

A shape is enlarged by scale factor 3.

How will the following change:

a) Lengths

b) Surface area

c) Volume

Previous

Next

CREATE YOUR OWN

Answer 1

a

- Rotate
- 90° clockwise
- About point (1,1)

b

- translate
- 4 right, 1 down

  or $\begin{pmatrix} 4 \\ -1 \end{pmatrix}$

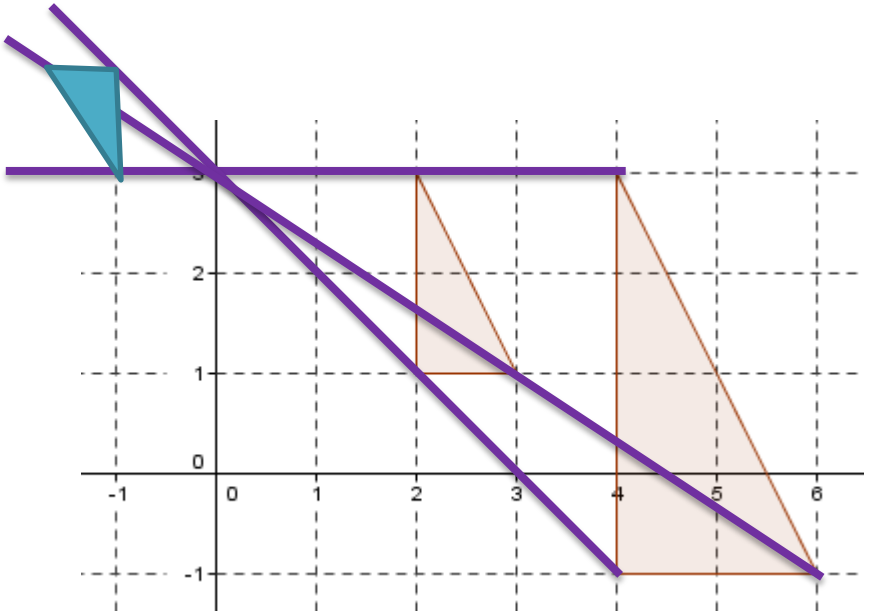
Answer 2

a) πr^2

b) $\frac{\vartheta}{360} \times \pi r^2$

Answer 3

a) Draw lines connecting the corners of the shape. They meet at the centre



b) Shape reduces in size (half)
Shape appears on other side of centre

Answer 4

Cross section area x length

Answer 5

a) $2\pi r \;\; or \;\; \pi d$

b) $\frac{\vartheta}{360} \times 2\pi r \;\; or \;\; \frac{\vartheta}{360} \times \pi d$

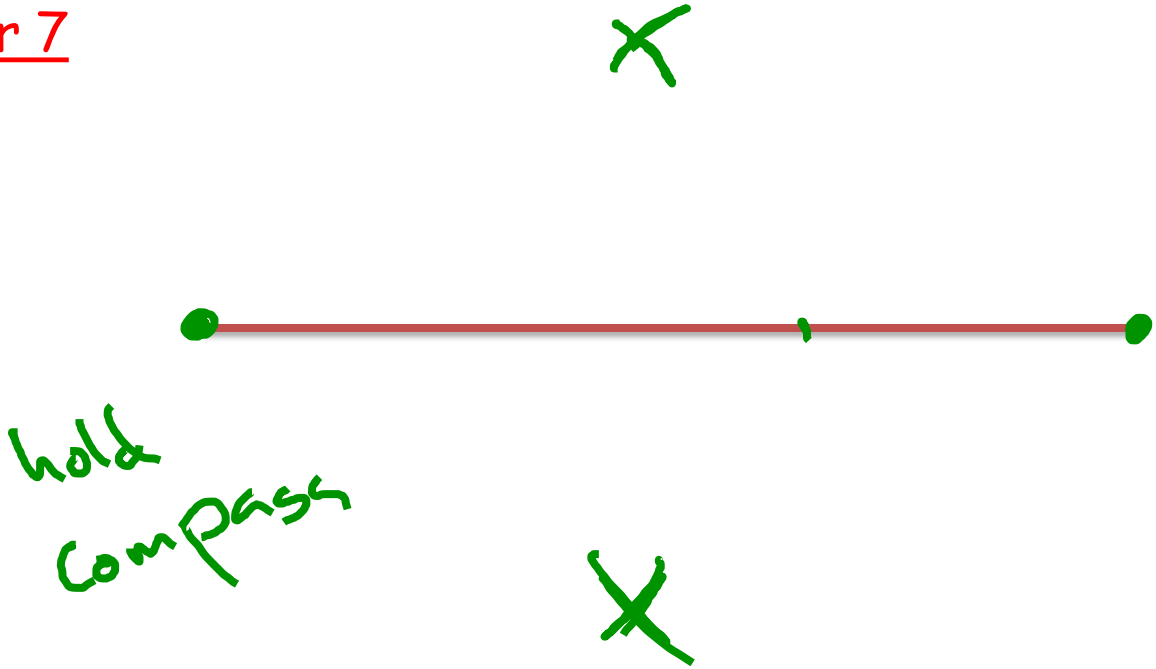
Answer 6

a) Angle at **centre** is double angle on **circumference**

b) Angles in **same segment** are equal

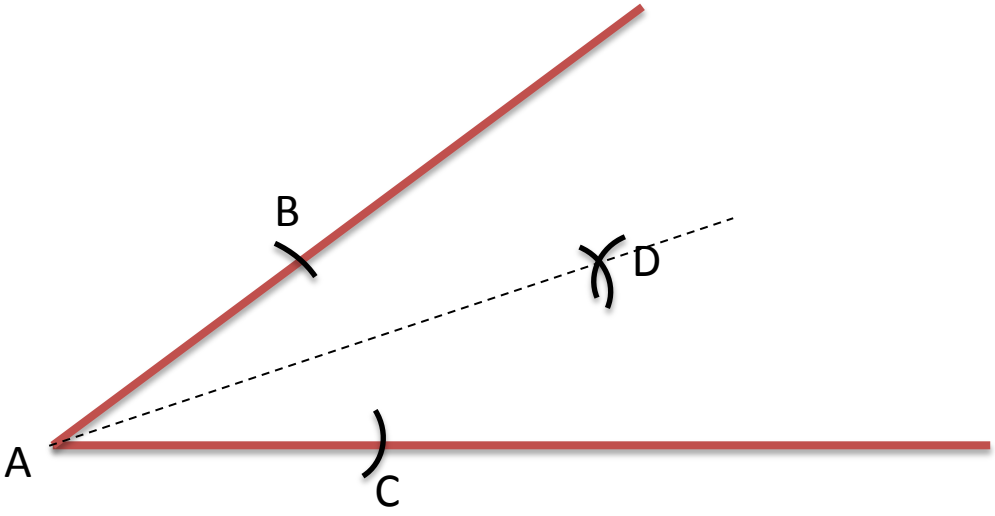
c) Angle at **centre** is double angle on **circumference**

Answer 7



1. Put compass point at one end of the line.
2. Open compass to about $\frac{2}{3}$ of the line length
3. Draw arcs at top and bottom
4. Repeat for other end.
5. Join arc intersections

Answer 8



1. Put compass point at angle vertex (A)
2. Draw arcs on line (B and C)
3. Move compass to B
4. Draw arc at D
5. Repeat with compass at C
6. Connect A to D

Answer 9

a) Exterior angles add to make 360°

$$360 \div number\ of\ sides$$

b) Exterior + interior = 180°

$$180 - exterior$$

Answer 10

a) Corresponding (F)

b) Alternate (Z)

c) Vertically Opposite

Answer 11

a) Trapezium

b) Parallelogram

c) Rhombus

d) Kite

Answer 12

a) Opposite angles in **cyclic quadrilateral** sum to 180°

b) Angle at **centre** is double angle on **circumference**

c) Alternate segment (tan-chord) theorem

Answer 13

a) Pythagoras

b) SohCahToa (tan)

c) Sine Rule

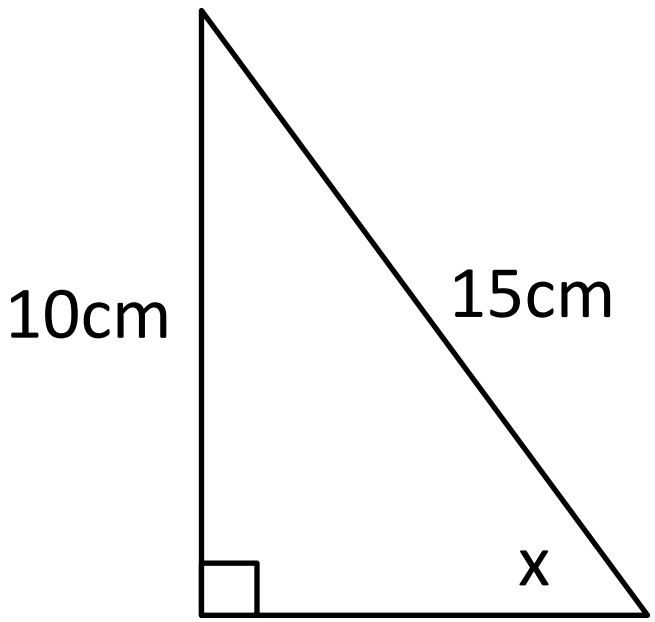
Answer 14

$$cos(40) = \frac{12}{\boldsymbol{x}}$$

$$\boldsymbol{x}cos(40) = 12$$

$$\boldsymbol{x} = \frac{12}{\cos(40)}$$

Answer 15



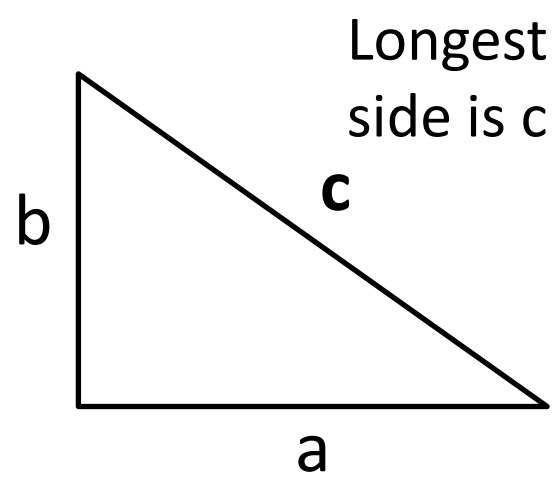
$$sin(x) = \frac{10}{15}$$

$$\boldsymbol{x} = \sin^{-1}(\frac{10}{15})$$

$$\boldsymbol{x} = 42^{o}$$

Answer 16

$$a^2 + b^2 = c^2$$



or

$$a^2 = c^2 - b^2$$
$$b^2 = c^2 - a^2$$

Answer 17

If you rotate 360°, how many times it fits onto itself

8

Answer 18

Calculate the area of all the faces and add them together

Triangles: $\frac{1}{2}$ base x height

$\frac{1}{2} \times 6 \times 4 =$ 12 (front)

12 (back)

Rectangles: 10 x 6 (bottom)

10 x 5 (side)

10 x 5 (side)

Total = 12+12+60+50+50

= 184cm^2

Answer 19

- From north
- Clockwise
- 3 figures (e.g. 035, 150)

Answer 20

a) $(-2a+b) + (4a+3b)$

$= -2a - b + 4a + 3b = \mathbf{2a + 2b}$

b) Ratio $xy:yz$

$2:3$

$2a+2b : 3a+3b$

$YZ = 3a + 3b$

$XZ = XY + YZ = \mathbf{5a + 5b}$

Answer 21

a) Tangents from same point are same length

Tangent meets radius at 90°

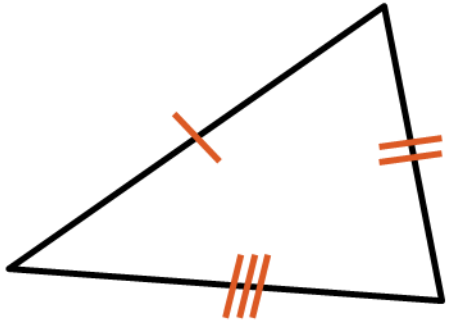
b) Tangent meets radius at 90°

angles in quadrialteral make 360°

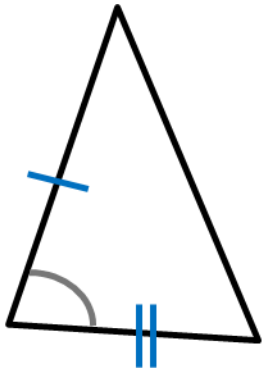
angle at centre double angle at circumference

Answer 22

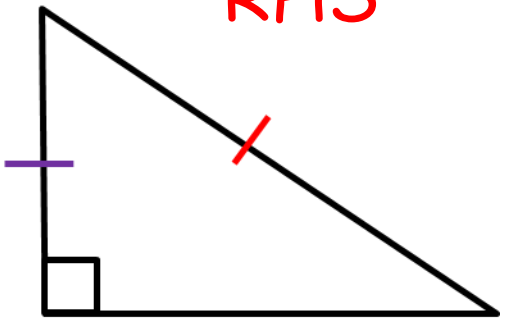
SSS



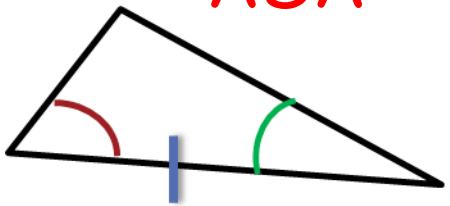
SAS



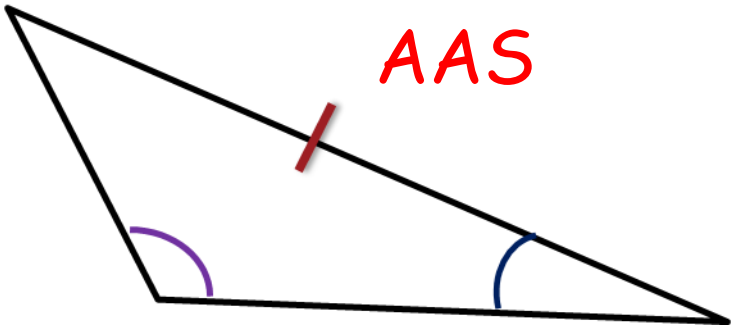
RHS



ASA



AAS



Not AAA (could be enlargement)
or SSA (two possible variations)

Answer 23

$A\hat{B}E = E\hat{D}C$ (alternate angles)
$B\hat{A}E = E\hat{C}D$ (alternate angles)
$A\hat{E}B = C\hat{E}D$ (vertically opposite)

Therefore they are similar

Pairs:
AB and CD
AE and EC
BE and ED

(scale factor = 2)

Answer 24

Find vector $\overrightarrow{AB}$

Find vector $\overrightarrow{BC}$

If they are parallel (one is a multiple of the other), all points must be on a straight line

Answer 25

$$a^2 = b^2 + c^2 - 2bcCosA$$

$$a^2 - b^2 - c^2 = -2bcCosA$$

$$\frac{\boldsymbol{a^2 - b^2 - c^2}}{\boldsymbol{-2bc}} = CosA$$

or

$$\frac{\boldsymbol{b^2 + c^2 - a^2}}{\boldsymbol{2bc}} = CosA$$

Answer 26

Lengths : x 3

Areas: x 3 x 3

Volume: x3 x 3 x 3

Answer 27