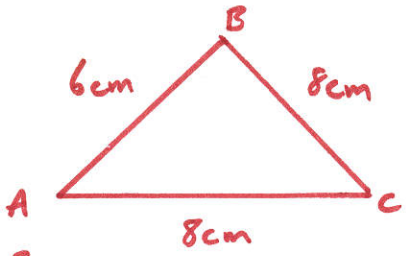
Constructions, Loci + Angles

(1) Construct a 30° angle

(2) a) Draw accurately:

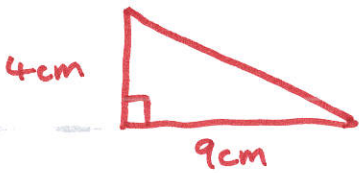


b) Draw the locus of points 5cm from A.

c) Draw the locus of points equidistant from B and C

d) Draw the locus of points equidistant from AB and BC

(3) Construct:



now draw the locus of points 2cm from perimeter.

(4) Find the sum of interior angles in a 12 sided shape

(5) Find the size of one interior angle in a regular 9-sided shape

(6) Find the size of one exterior angle in a regular 10-sided shape

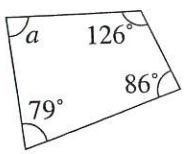
(7) An exterior angle in a regular shape is 12°, how many sides does it have?

(8) An interior angle in a regular shape is 165°, how many sides does it have?

Geometry Qs

Find the angles marked with letters.

1



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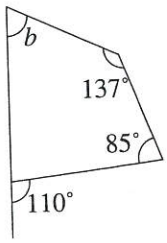

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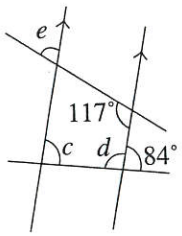

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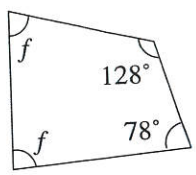

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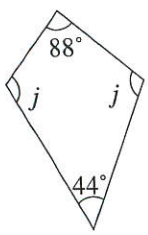

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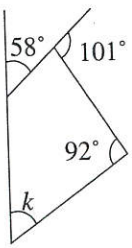

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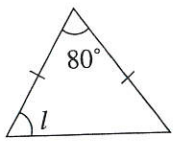

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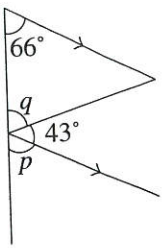

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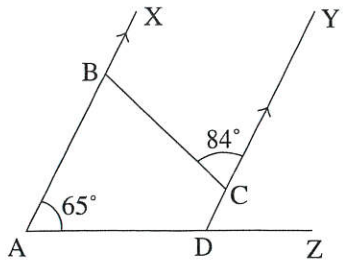
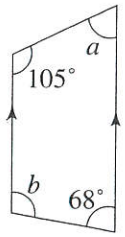


Find the values of

(a) $A\hat{B}C$ (b) $B\hat{C}D$ (c) $A\hat{D}C$ (d) $C\hat{D}Z$

Find the angles marked with letters. Draw each diagram and show your working.

10



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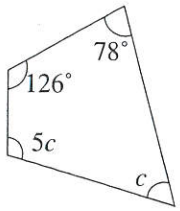

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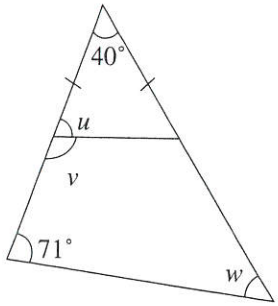

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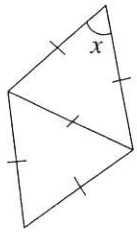

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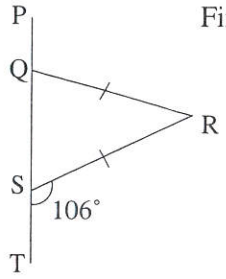
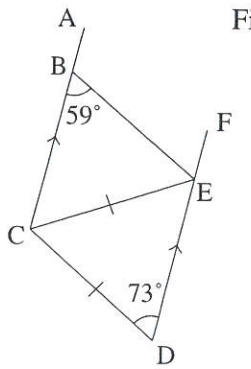


Find the value of $Q\hat{R}S$.

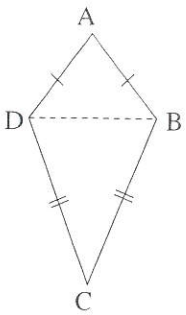
15



Find the value of $B\hat{E}C$.

16

Copy and complete this proof to show that $A\hat{D}C$ is equal to $A\hat{B}C$ in this kite.



$A\hat{D}B =$ ☐ (angles in isosceles triangle ADB)

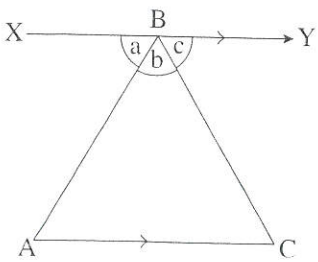
$B\hat{D}C =$ ☐ (angles in isosceles triangle BDC)

$A\hat{D}C = A\hat{D}B + B\hat{D}C$

$=$ ☐ + ☐

$= A\hat{B}C$

17



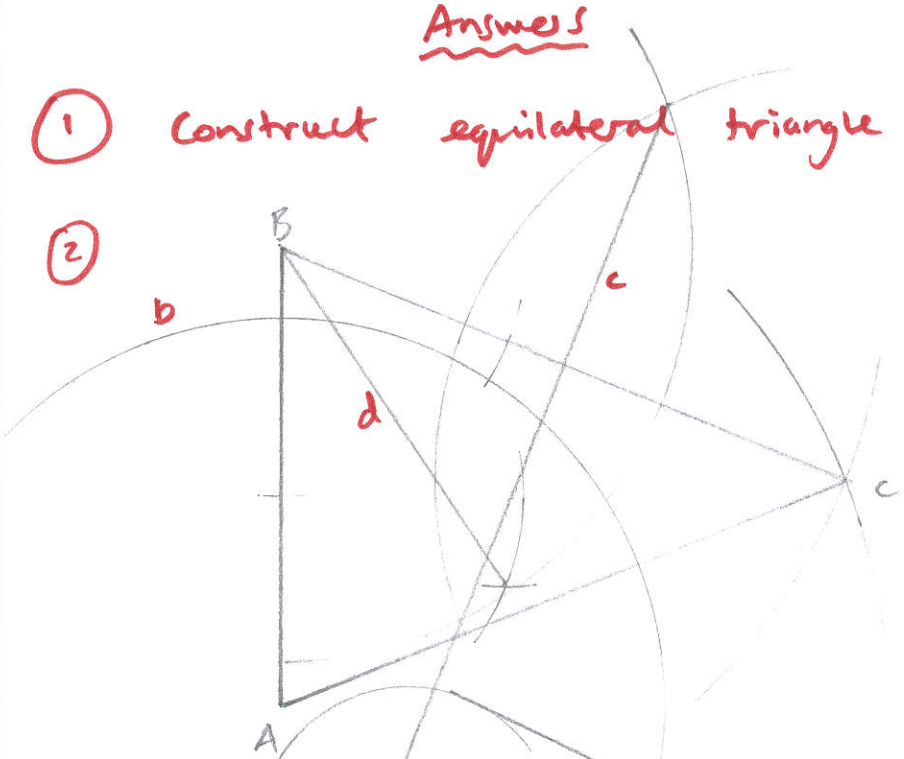
$a + b + c = 180°$ (angles on a straight line)

Prove that the sum of the angles in a triangle is 180°.

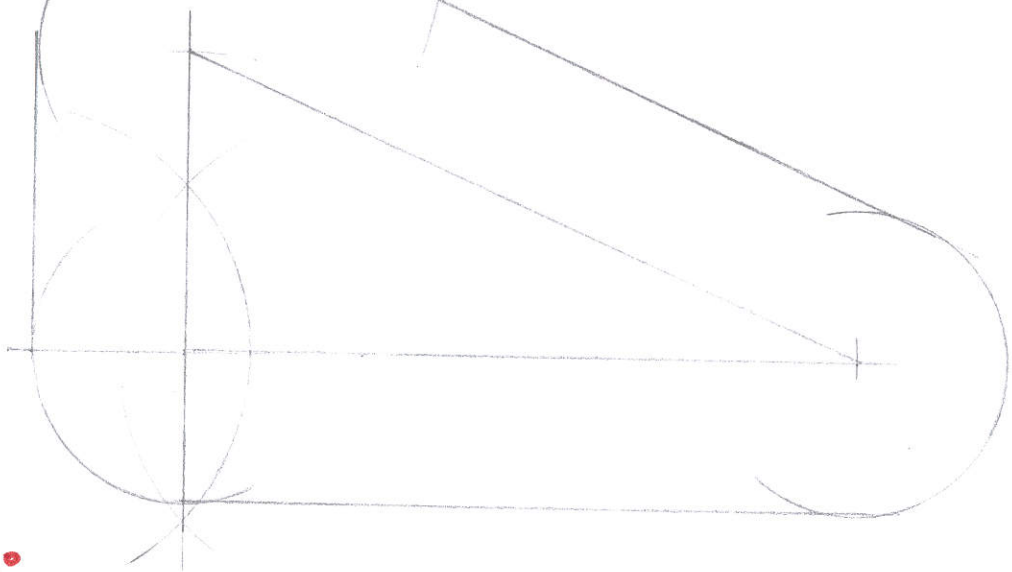
Answers

(1) Construct equilateral triangle + bisect one angle.

(2)



(3)



(4) 1800° (5) 140° (6) 36° (7) 30 (8) 24

Geom (1) 69 (2) 68 (3) e = 63 d = 96 c = 84 (4) 77

(5) 114 (6) 67 (7) 50 (8) p = 66 q = 71

(9) a) 84 b) 96 c) 115 d) 65 (10) a = 65 b = 112 (11) 26

(12) u = 70 v = 110 w = 69 (13) 60 (14) 32 (15) 48

(16) Blanks: $A\hat{B}D$, $D\hat{B}C$, $A\hat{B}D + D\hat{B}C$

(17) $B\hat{A}C = c$ (alternate), $B\hat{C}A = a$ (alternate)

$B\hat{A}C + B\hat{C}A + A\hat{B}C = 180$ (Δ) $\therefore$ $a + b + c = 180$.