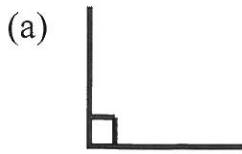


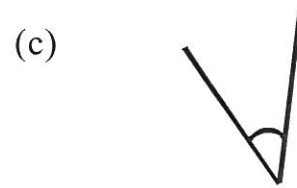
(1) Classify each of the following angles according to their size:



Right $\angle$



Obtuse $\angle$



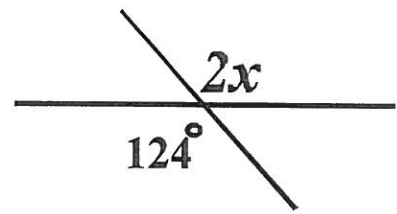
Acute $\angle$

(2) Determine the value(s) of x in each of the following sketches. Also give complete reasons.

(a) $2x = 124^\circ$ [Vert opp. $\angle^s$]

$\therefore x = \frac{124^\circ}{2}$

$x = 62^\circ$

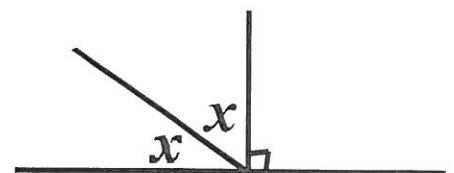


(b) $x + x + 90^\circ = 180^\circ$ [$\angle^s$ on str. line]

$\therefore 2x + 90^\circ = 180^\circ$

$2x = 180^\circ - 90^\circ$

$x = \frac{90^\circ}{2} = 45^\circ$

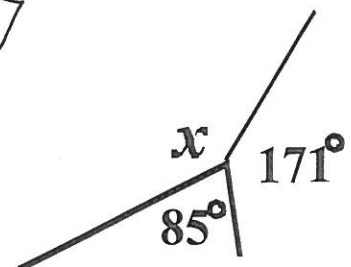


(c) $x + 171^\circ + 85^\circ = 360^\circ$ [Revolution]

$\therefore x + 256^\circ = 360^\circ$

$\therefore x = 360^\circ - 256^\circ$

$\therefore x = 104^\circ$

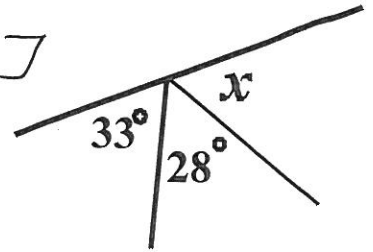


(d)

$$x + 33^\circ + 28^\circ = 180^\circ \quad [\angle^s \text{ on str. line}]$$

$$\therefore x = 180^\circ - 33^\circ - 28^\circ$$

$$\therefore x = 119^\circ$$

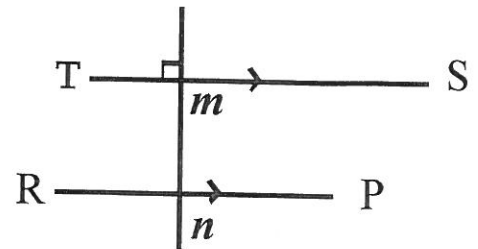


(3) Determine the value(s) of m , n and/or k in each of the following sketches. Also give complete reasons.

(a)

$$m = 90^\circ \quad [\text{vert. opp. } \angle^s]$$

$$n = 90^\circ \quad [\text{corresp. } \angle^s; TS \parallel RP]$$



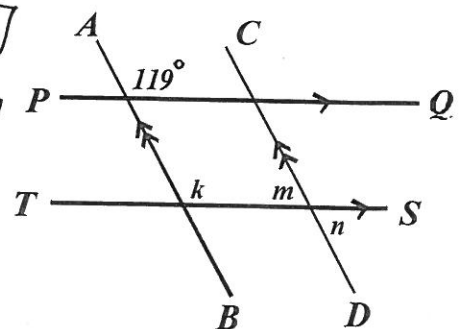
(b)

$$k = 119^\circ \quad [\text{corresp. } \angle^s; PQ \parallel TS]$$

$$k + m = 180^\circ \quad [\text{co-int. } \angle^s; AB \parallel CD]$$

$$\therefore m = 180^\circ - 119^\circ = 61^\circ$$

$$m = n = 61^\circ \quad [\text{vert. opp. } \angle^s]$$



(4) Determine the value(s) of m , n and/or k in each of the following sketches.

Also give complete reasons.

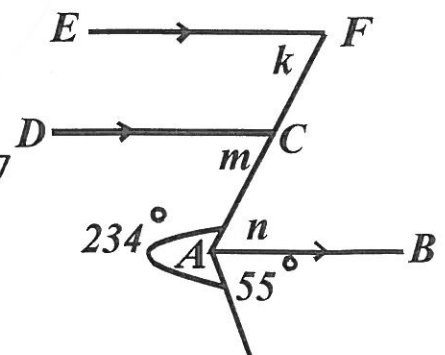
$$n + 234^\circ + 55^\circ = 360^\circ \quad [\text{Revolution}]$$

$$\therefore n = 360^\circ - 234^\circ - 55^\circ$$

$$\therefore n = 71^\circ$$

$$m = n = 71^\circ \quad [\text{alt } \angle^s; DC \parallel AB]$$

$$m = k = 71^\circ \quad [\text{corresp. } \angle^s; EF \parallel DC]$$



(5) Determine whether $AB \parallel CD$ in each of the following sketches. Show all calculations:

(a)

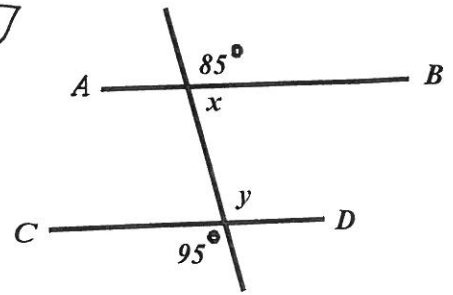
$$x = 180^\circ - 85^\circ \quad [\angle^s \text{ on str. line}]$$

$$\therefore x = 95^\circ$$

$$y = 95^\circ \quad [\text{vert. opp } \angle^s]$$

but $95^\circ + 95^\circ \neq 180^\circ$ and
these are co-int. $\angle^s$

$\therefore AB$ not $\parallel$ to CD !



(b)

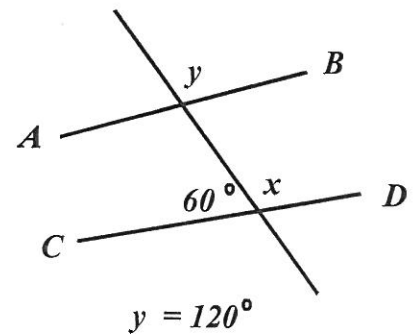
$$x = 180^\circ - 60^\circ \quad [\angle^s \text{ on str. line}]$$

$$\therefore x = 120^\circ$$

$$\therefore x = y = 120^\circ$$

but these are corresp. $\angle^s$

$\therefore AB \parallel CD$



(6) Name three conditions for two angles to be adjacent.

- * The angles should have a common vertex
- * The angles should have a common arm
- * The two angles should lie on either side of the common arm.