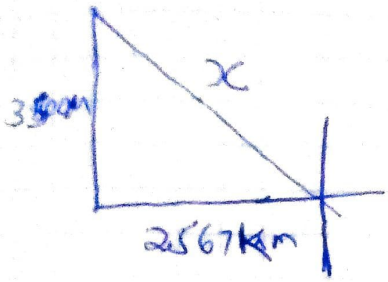
(1)



$a + b^2 = c^2$

$3.500^2 + 2.567^2 = c^2$

$12.25 + 6.589489 = c^2$

$18.84 = c^2$

$c = 4.34\text{km}$

(2)

x is supplementary to $42°$

Supplementary angles add up 180

$x + 42 = 180$

$x = 180 - 42$

$x = 138°$

y is complementary to $42°$

Complementary angles add up $90°$

$y + 42° = 90°$

$y = 90 - 42$

$y = 58°$

$y + x = 58 + 138$

$= 196°$

(3)

Angles of triangle add up 180

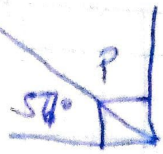
$x + 48 + 86 = 180$

$x = 180 - 134$

$x = 46°$

A triangle in which are angles are unequal is scalene triangle

④



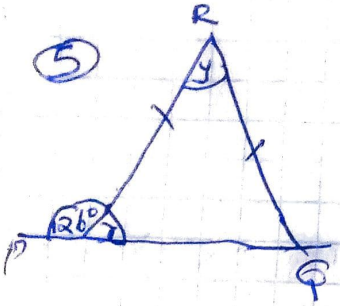
(i) Angle $P + 57^\circ = 90$

$P = 90 - 57$

$P = 33^\circ$

(ii) This is because angle P is the complementary of angle 57°

⑤



a) Angle marked x

Angles on straight line add upto 180° angle

$126^\circ + x = 180$

$x = 180 - 126$

$x = 54^\circ$

b) Angle y

Base angles of isosceles triangle are equal

$54 \times 2 + y = 180$

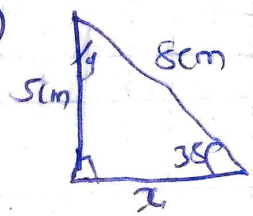
$108 + y = 180$

$y = 180 - 108$

$y = 72^\circ$

ii) Angles x lies on straight line PQ while y is angle of a triangle.

⑥



Angle $y + 90 + 38 = 180$

$y = 180 - 128$

$y = 52^\circ$

(ii) Length x

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

$5^2 + x^2 = 8^2$

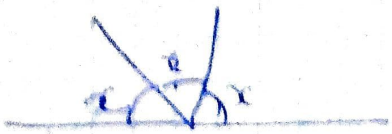
$x^2 = 8^2 - 5^2$

$x^2 = 64 - 25$

$x^2 = 39$

$x = 6.24\text{cm}$

(7)



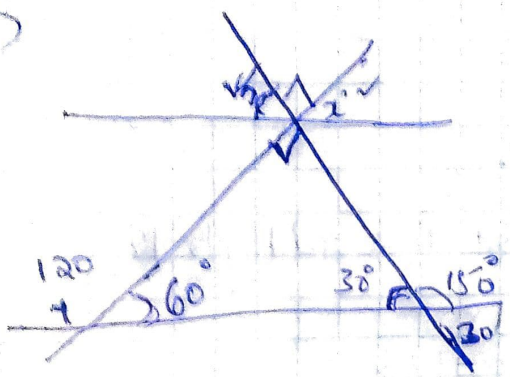
Angles on straight line add upto 180

$x + x + x = 180$

$3x = 180$

$x = 60$

(8)



$y + 60 = 180$

$y = 180 - 60$

$y = 120$ Angles on straight line.

$n + 90 = 120$

$n = 120 - 90$

$n = 30$

$30 + 90 + x = 180$

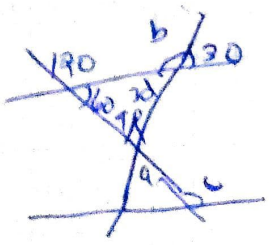
$120 + x = 180$

$x = 180 - 120$

$x = 60$

Angles on a straight line.

b



$b + 30 = 180$

$b = 180 - 30$

$b = 150$

Angles on straight line.

$a = 90°$

Adjacent angles are equal

$c = 120°$

Angles on transversal.