10.2 Answers (Revision for TEST)

GCSE Mathematics

Non-Right Angled Trigonometry

Answer 1

(i) 0.766

(ii) On graph : Vertical line from 50°, Horizontal line to 0.766

(iii) – 0.985

(iv) On graph : Vertical line from 260°, Horizontal line to – 0.985

Answer 2

5.8284 must be to 4 decimal places

Answer 3

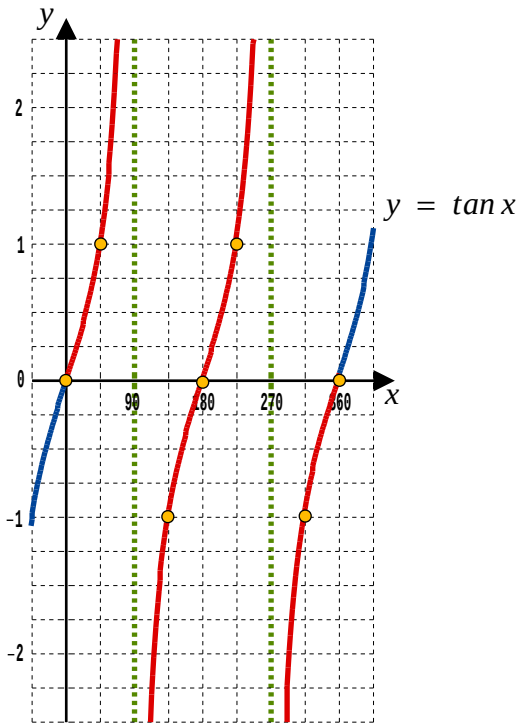
(i) 128.8° must be to 1 decimal place

(ii) 41.3° must be to 1 decimal place

(iii) 25.0° must be to 3 significant figures

(iv) 437 must be to 3 significant figures

Answer 4



Answer 5

(i) Check *r*, *u* and *m* placed correctly on diagram.

(ii) Check *x*, 31.2, 29.4 and 115° correctly placed on diagram.

(iii) Check star placed at *R* and *U*.

(iv) $\frac{\sin R}{r} = \frac{\sin U}{u} = \frac{\sin M}{m}$

(v) 58.7° must be to 3 significant figures

Answer 6

(i) 7.99 cm

(ii) 39.14 cm^2

Answer 7

55.7°

Answer 8

(i) 108°

(ii) Check sketch of triangle

(iii) $a = BC = 13.5$ cm

(iv) $c = AB = 7.40$ cm

Answer 9

17.7 cm

Answer 10

(i)

n	3	4	5	6	7	8	9	10	11	12
A	8.1	12.5	14.9	16.2	17.1	17.7	18.1	18.4	18.6	18.8

(ii) Graph's scales numbered and labelled.

(iii) $Area \rightarrow \pi r^2$ That is, 19.6, as the polygon becomes more like a circle

Answer 11

180 – 74.4 = 146° Bearing given to nearest degree

Answer 12

(i) Both are the area of the same triangle, $\triangle ABC$

(ii)

$$\frac{1}{2} ab \sin C = \frac{1}{2} bc \sin A$$

$ab \sin C = bc \sin A$ multiply both sides by 2

$a \sin C = c \sin A$ divide both sides by b

$\sin C = \frac{c \sin A}{a}$ divide both sides by a

$\frac{\sin C}{c} = \frac{\sin A}{a}$ divide both sides by c

(iii) 66.5°

(iv) 113.5°