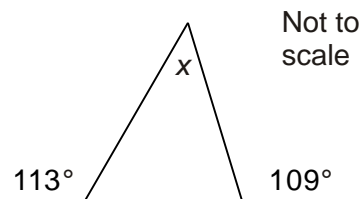


Angles in triangles (Junior UKMT)

These questions must be attempted without a calculator

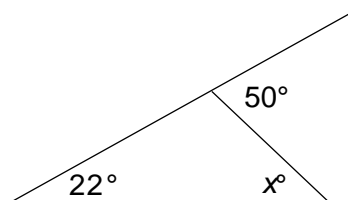
Topics covered in the questions below may not necessarily be from the topic of the title.

1. What is the size of the angle marked x ?



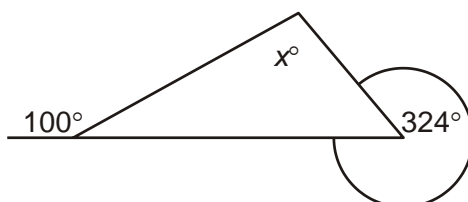
- A 42° B 67° C 69° D 71° E 111°

2. What is the value of x ?



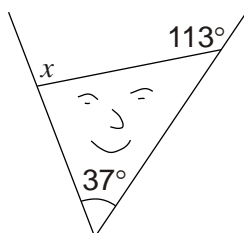
- A 22 B 28 C 108 D 130 E 208

3. In this diagram, what is the value of x ?



- A 16 B 36 C 64 D 100 E 144

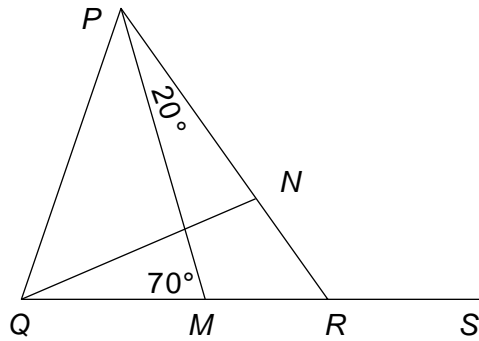
4. How big is angle x ?



- A 76° B 104° C 113° D 114° E 150°

5. In the diagram $\angle RPM = 20^\circ$ and $\angle QMP = 70^\circ$.

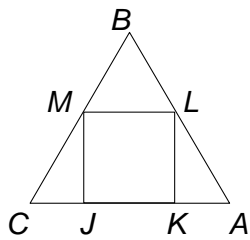
What is $\angle PRS$?



- A 90° B 110° C 120° D 130° E 140°

6. The diagram shows a square drawn inside an equilateral triangle.

What is the size of angle JMC ?

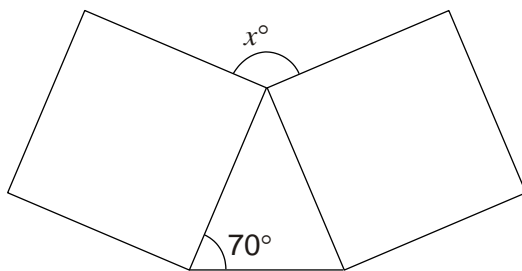


- A 90° B 60° C 45° D 30° E 15°

7. The diagram shows two equal squares.

What is the value of x ?

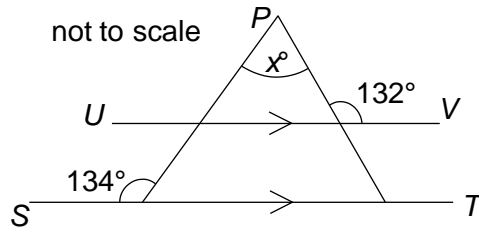
Not to scale



- A 140 B 145 C 150 D 155 E 160

8. In the diagram below, ST is parallel to UV .

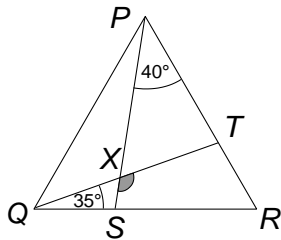
What is the value of x ?



- A 46 B 48 C 86 D 92 E 94

9. Triangle PQR is equilateral. Angle $SPR = 40^\circ$, angle $TQR = 35^\circ$.

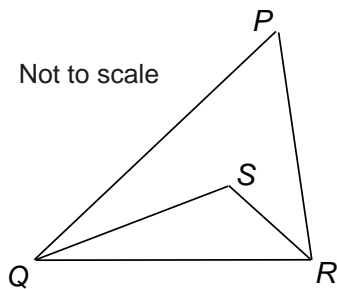
What is the size of the marked angle SXT ?



- A 140° B 135° C 120° D 105° E 75°

10. In the triangle PQR , the angle $QPR = 40^\circ$ and the internal bisectors of the angles at Q and R meet at S , as shown.

What is the size of angle QSR ?



- A 110° B 120° C 130° D 135° E 140°