MEMORANDUM

Name: ..... Class: .....

Date: .....

MARK ____ / 26

Answer all questions. Show all your working — marks are awarded for method as well as the final answer. **Teacher copy: accept any correct equivalent method.**

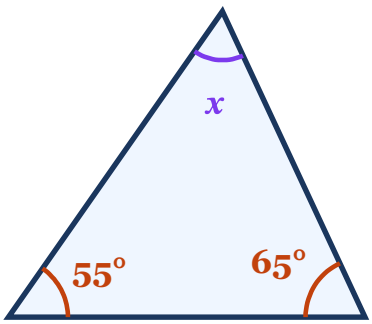
---

1 Two angles of a triangle (the third is $30°$) are $(2x + 10)°$ and $(4x + 20)°$. Determine the value of x, and hence the size of each angle. **(4)**

> The angles of a triangle add up to $180°$, so these two add to $150°$ *(1)*
> $6x + 30 = 150$ *(1)*
> $\boldsymbol{x = 20}$ *(1)*
> The angles are **$50°$** and **$100°$** *(1)* ✓✓✓✓ **(4)**

---

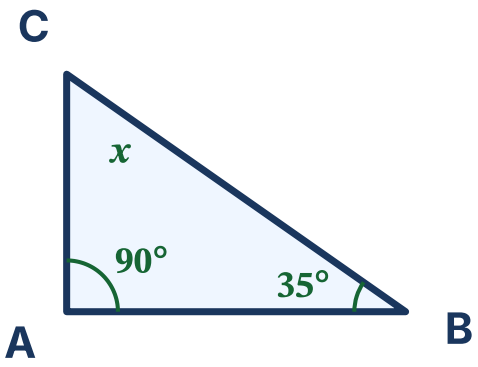
2 A triangle has angles $55°$, $65°$ and x. Find x. *(basic)* **(1)**



> $180° - 55° - 65° = \mathbf{60°}$ ✓ **(1)**

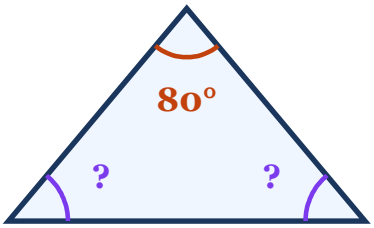
---

3 A right-angled triangle has one other angle of $35°$. Find the third. *(right-angled)* (2)



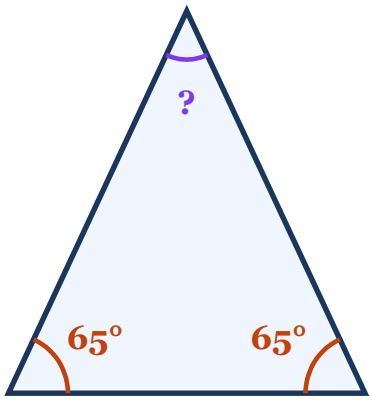
> $180° - 90° - 35° = \mathbf{55°}$ ✓✓ (2)

4 Isosceles triangle, apex $80°$. Find each base angle. *(isosceles)* (2)



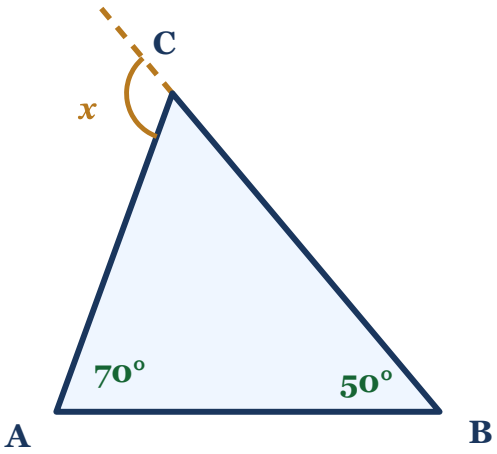
> $(180° - 80°) \div 2 = \mathbf{50°}$ ✓✓ (2)

5 Isosceles triangle, base angles $65°$ each. Find the apex. *(isosceles)* (2)



$180° - 65° - 65° = \mathbf{50°}$ ✓✓ (2)

6 Interior angles $70°$ and $50°$; find the exterior angle at the third vertex. *(exterior)* (2)



$70° + 50° = \mathbf{120°}$ ✓✓ (2)

7 Triangle angles are x, x and $4x$. Find x. *(solve)* (3)

$6x = 180 \rightarrow x = \mathbf{30°}$ ✓✓✓ (3)

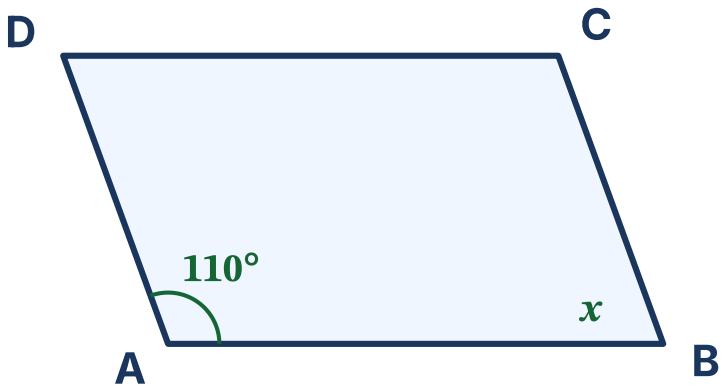
8 Triangle angles are $2x$, $3x$ and $4x$. Find the largest angle. *(solve)* (3)

$9x = 180 \rightarrow x = 20$; largest $4x = \mathbf{80°}$ ✓✓✓ (3)

9 Quadrilateral angles $120°$, $80°$, $70°$ and x. Find x. *(quad)* (2)

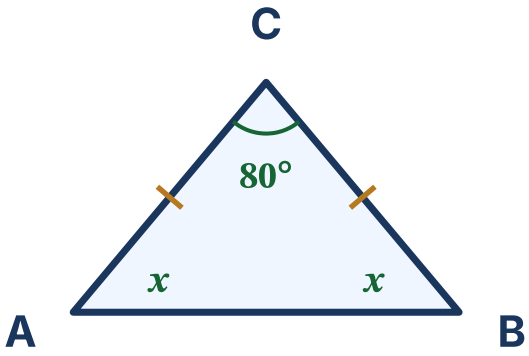
$360° - 270° = \mathbf{90°}$ ✓✓ (2)

10 In parallelogram ABCD below, $\hat{A} = 110°$. Determine the size of x, giving a reason. **(3)**



$180° - 110° = \mathbf{70°}$ ✓✓✓ **(3)**

11 Two angles of a triangle are equal; the third is $80°$. Find each equal angle. *(isosceles)* **(2)**



$(180° - 80°) \div 2 = \mathbf{50°}$ ✓✓ **(2)**

TOTAL: 26 marks

© Danemathics — free to print and share for classroom use.