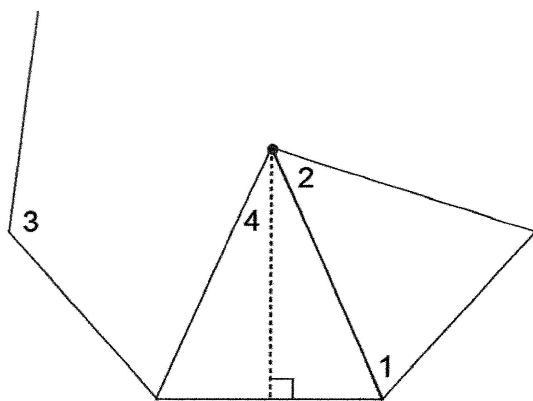1. Find the sum of the interior angles of a 27-gon.

2. Find the measure of one interior angle of a regular 20-gon.

3. The figure shown is part of a regular 30-gon. Find the measure of each numbered angle. *Figure is not drawn to scale.*

1. Find the sum of the interior angles of a 27-gon.
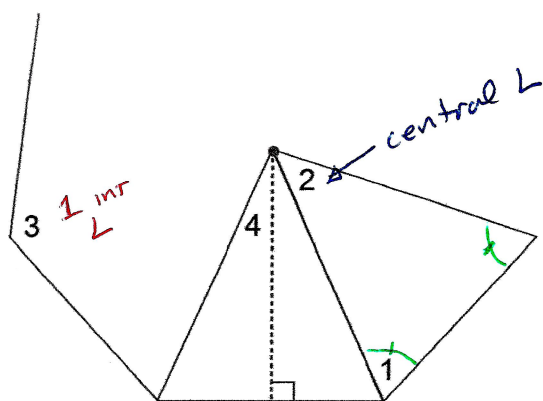
$n = 27$ $sum = (27-2)180$

$$\boxed{sum = 4500°}$$

2. Find the measure of one interior angle of a regular 20-gon.

$n = 20$ $sum = (20-2)180 = 3240°$

$1 \text{ int } \angle = \dfrac{3240°}{20} = \boxed{162°}$

3. The figure shown is part of a regular 30-gon. Find the measure of each numbered angle. *Figure is not drawn to scale.*

central ∠

3 1 int ∠

2

4

1

$\underline{\underline{\angle 1}} = \frac{1}{2} \text{ interior} \angle = \frac{1}{2}(168°)$

$$\boxed{\angle 1 = 84°}$$

$\underline{\underline{\text{OR}}}$

$= \dfrac{180° - \angle 2}{2} = \dfrac{(180° - 12°)}{2}$

$= 84°$

$\underline{\underline{\angle 3}} :$

sum of int $\angle$s : $(30-2)180$

$= 5040°$

$1 \text{ int } \angle = \dfrac{5040°}{30} = 168°$

$$\boxed{\angle 3 = 168°}$$

$\underline{\underline{\angle 2}} :$ $1 \text{ central } \angle = \dfrac{360°}{30} = 12°$

$$\boxed{\angle 2 = 12°}$$

$\underline{\underline{\angle 4}} :$ $= \frac{1}{2} \text{ central } \angle = \frac{1}{2} \cdot 12°$

$$\boxed{\angle 4 = 6°}$$

1