

Sum of ALL exterior angles = 360°

Answer each question...

1. What is the measure of an exterior angle of a regular Pentagon?

$$360^\circ \div 5 = 72^\circ$$

3. What is the measure of an exterior angle of a regular Decagon?

$$360^\circ \div 10 = 36^\circ$$

5. What is the measure of an exterior angle of a regular Nonagon?

↑
9-sided

$$360^\circ \div 9 = 40^\circ$$

7. What is the measure of an exterior angle of a regular 15-gon?

$$360^\circ \div 15 = 24^\circ$$

2. What is the measure of an exterior angle of a regular Hexagon?

↖ 6-angles

$$360^\circ \div 6 = 60^\circ$$

4. What is the measure of an exterior angle of a regular Heptagon?

$$360 \div 7 = 51.43^\circ$$

6. What is the measure of an exterior angle of a regular 11-gon?

$$360^\circ \div 11 = 32.73$$

8. What is the measure of an exterior angle of a regular Dodecagon?

↑ 12-sides

$$360^\circ \div 12 = 30^\circ$$

Bubble all the correct answers from above. Don't bubble incorrect answers.

32 31.54 20 68.43 36 32.73 72 60 30 50 34 24 51.43 40

9. How many sides does a regular polygon have if one of its exterior angles = 15° ?

$$360^\circ \div 15^\circ =$$

24 sides

11. How many sides does a regular polygon have if one of its exterior angles = 20° ?



$$360 \div 20^\circ = 18 \text{ sides}$$

13. How many sides does a regular polygon have if one of its exterior angles = 45° ?

$$360 \div 45 = 8 \text{ sides}$$

15. How many sides does a regular polygon have if one of its exterior angles = 11.25° ?

$$\frac{360^\circ}{11.25^\circ} = 32 \text{ sides}$$

10. How many sides does a regular polygon have if one of its exterior angles = 36° ?

$$\frac{360^\circ}{36^\circ} = 10$$

12. How many sides does a regular polygon have if one of its exterior angles = 9° ?

$$\frac{360^\circ}{9^\circ} = 40 \text{ sides}$$

14. How many sides does a regular polygon have if one of its exterior angles = 60° ?

$$\frac{360}{60} = 6 \text{ sides}$$

16. How many sides does a regular polygon have if one of its exterior angles = 30° ?

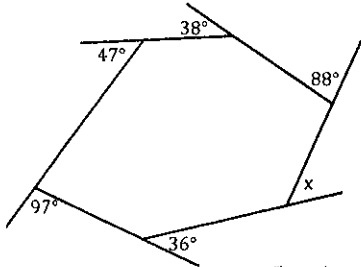
$$\frac{360}{30} = 12 \text{ sides}$$

Bubble all the correct answers from above. Don't bubble incorrect answers.

24 32 12 15 40 10 50 26 10 65 8 6 17 9

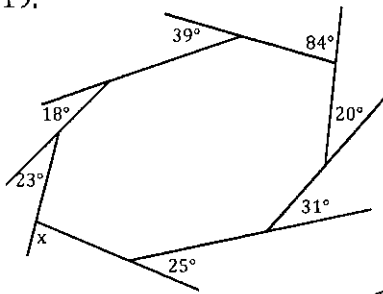
Find the missing angle.

17.



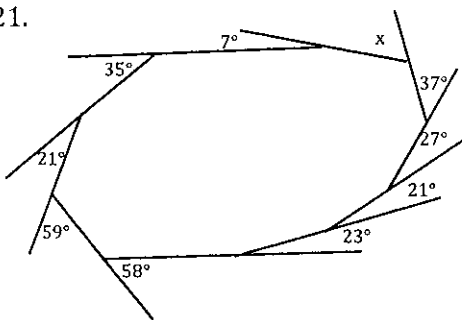
$$360 - 306 = \boxed{54 = x}$$

19.



$$x = 360 - 240 = \boxed{120 = x}$$

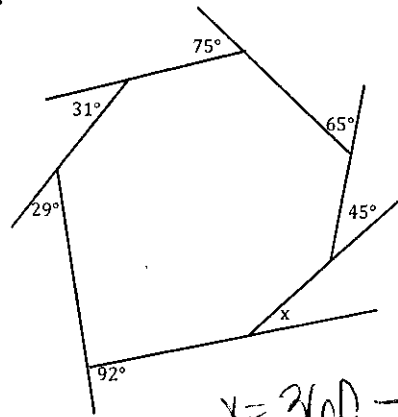
21.



$$x = 360 - 7 - 35 - 21 - 59 - 58 - 23 - 21 - 27 - 37$$

$$\boxed{x = 72}$$

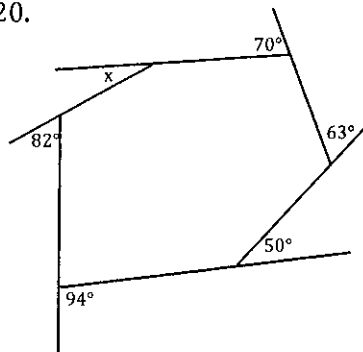
18.



$$x = 360 - 337$$

$$\boxed{x = 23}$$

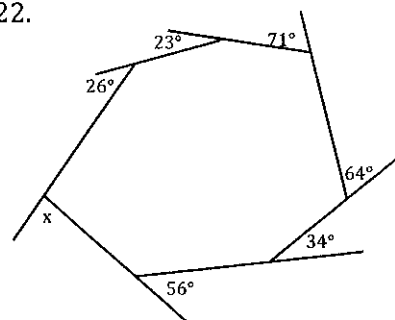
20.



$$x = 360 - 359$$

$$x = 1$$

22.



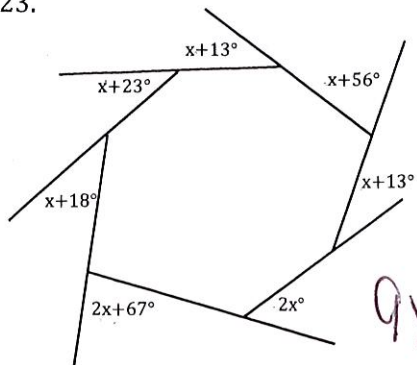
$$x = 86$$

Bubble all the correct answers from above. Don't bubble incorrect answers.

- 86
 89
 72
 2
 1
 125
 120
 26
 23
 54

Solve for x.

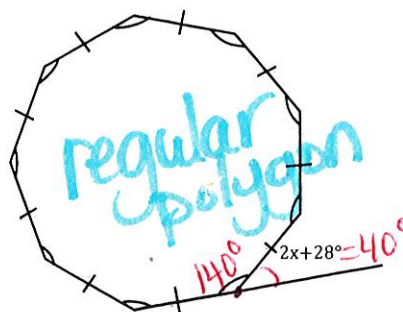
23.



$$9x + 190 = 360$$

$$x = 18.88$$

24.



$$(9-2)180^\circ = 1260^\circ$$

$$\frac{1260^\circ}{9} = 140^\circ \text{ each interior angle}$$

$$2x + 28^\circ = 40^\circ$$

$$\frac{2x}{2} = \frac{12}{2}$$

$$x = 6$$

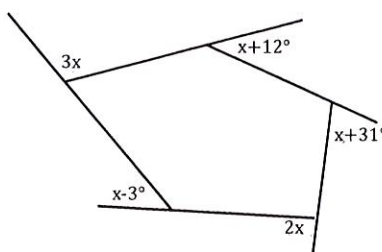
25.

Interior: 10 sides
 $8(180^\circ) = 1440$
 $1440 \div 10 = 144^\circ$ each interior angle
 so exterior = $180^\circ - 144^\circ = 36^\circ$
 so $3x - 15 = 36$
 $x = 17$

Regular polygon

or $\frac{360}{10} = 36^\circ$ each exterior

26.

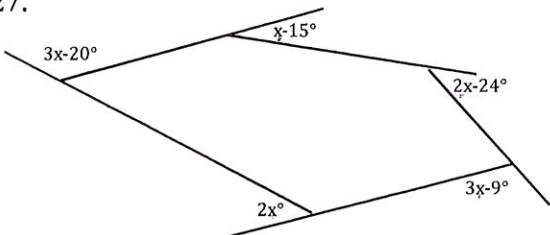


$$8x + 40 = 360^\circ$$

$$\frac{8x}{8} = \frac{320}{8}$$

$$x = 40^\circ$$

27.



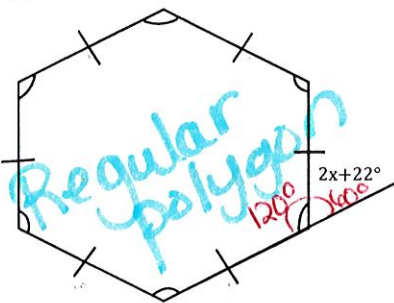
Add all exterior angles = 360°

$$11x - 68 = 360^\circ$$

$$\frac{11x}{11} = \frac{428}{11}$$

$$x = 38.91$$

28.



6 sides, $(6-2)(180^\circ) = 720^\circ$ total degrees insd

$$\frac{720^\circ}{6} = 120^\circ$$

$$2x + 22^\circ = 60^\circ$$

$$\frac{2x}{2} = \frac{38}{2}$$

$$x = 19$$

Bubble all the correct answers from above. Don't bubble incorrect answers.

- 9
 38.91
 6
 23.85
 19
 17.77
 18.88
 17
 40
 30