

EXAM 2 REVIEW

Date: _____ Period: _____

Copy the following line segment:

Create a line segment twice as long as the one below:

1)

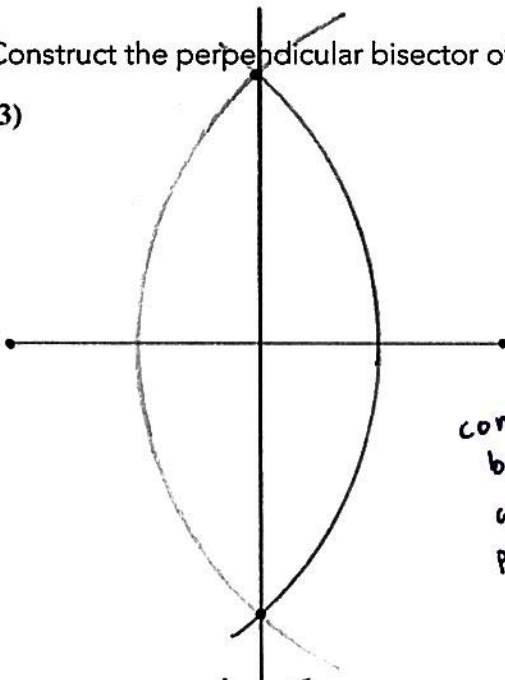


2)

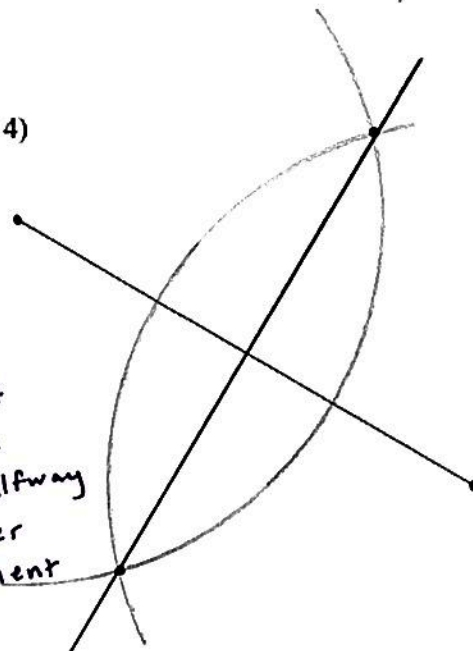


Construct the perpendicular bisector of each.

3)



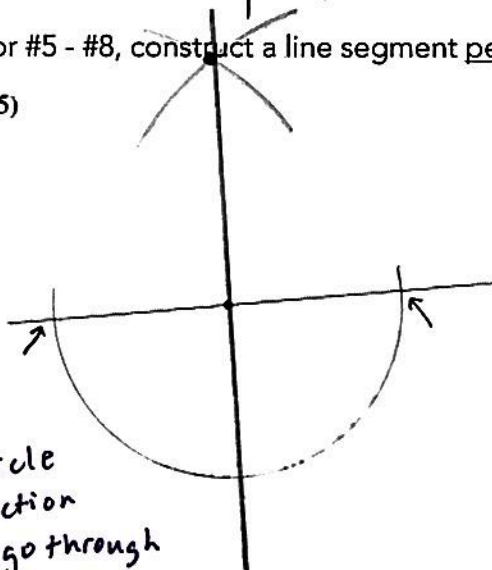
4)



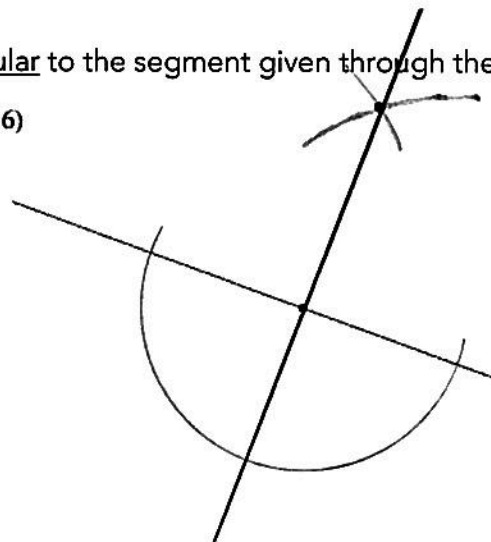
compass must be extended at least halfway past center of segment

For #5 - #8, construct a line segment perpendicular to the segment given through the point given.

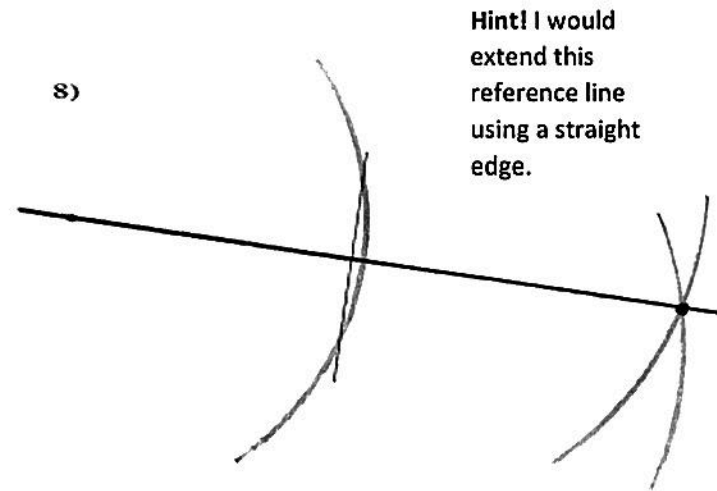
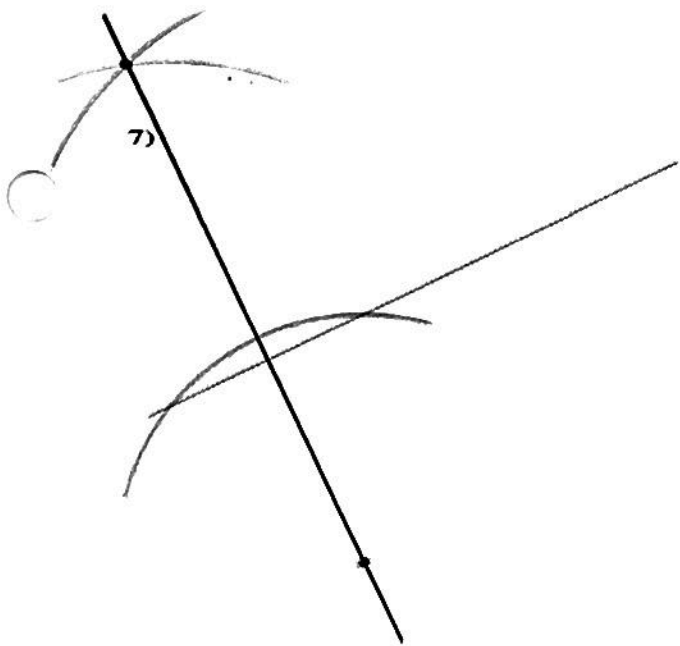
5)



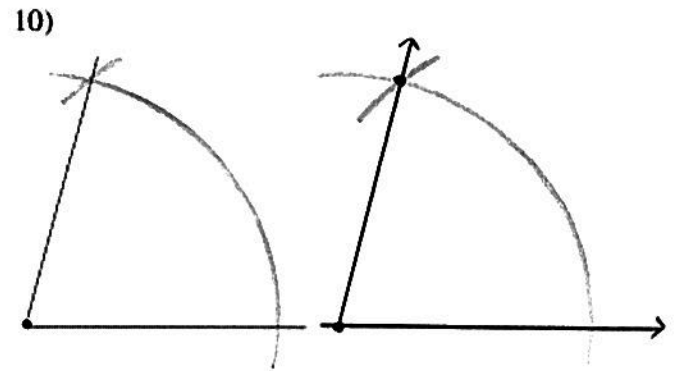
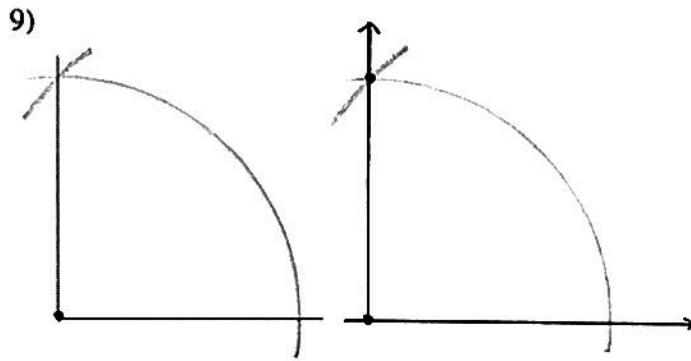
6)



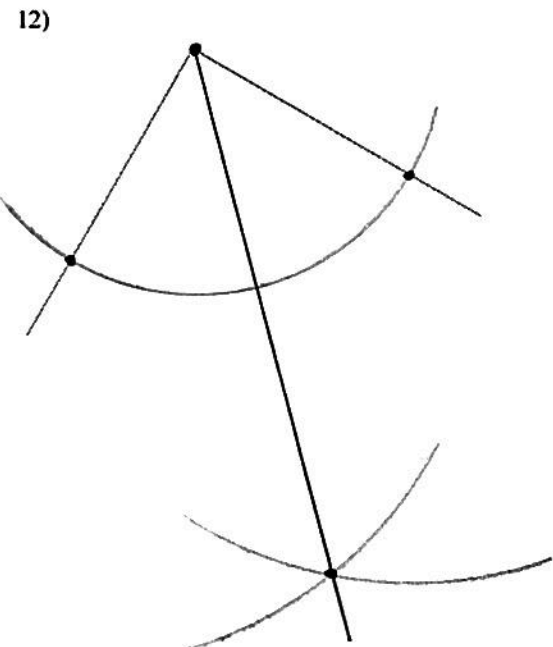
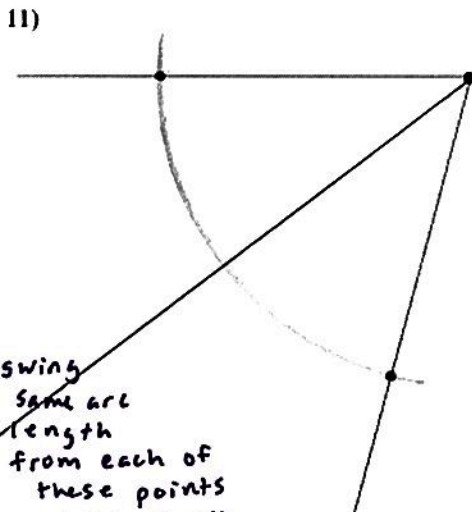
first circle construction must go through segment twice



Construct a copy of each angle given.



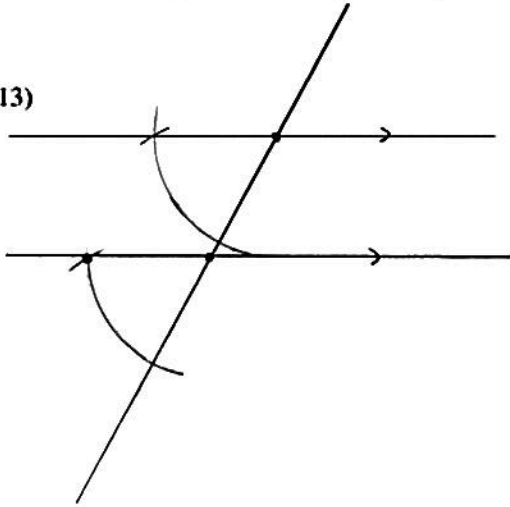
Construct the bisector of each angle.



① swing an arc
 ② where arc intersects the rays of your angle → swing same arc length from each of these points (this length can be different than first arc swing)

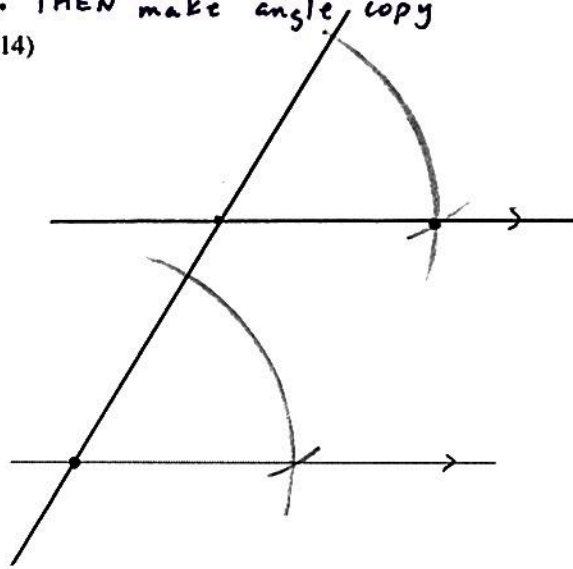
Construct a line segment through the given point parallel to the given line segment.

13)



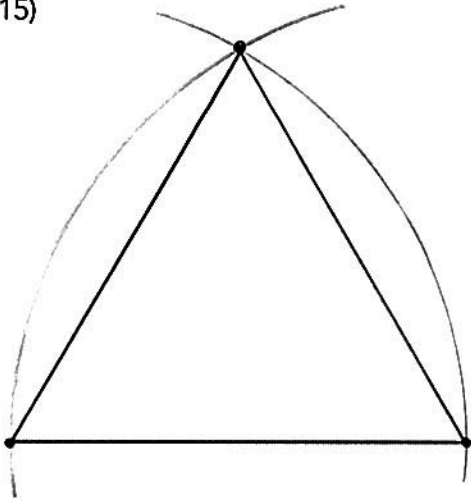
• FIRST STEP → construct a TRANSVERSAL
• THEN make angle copy

14)

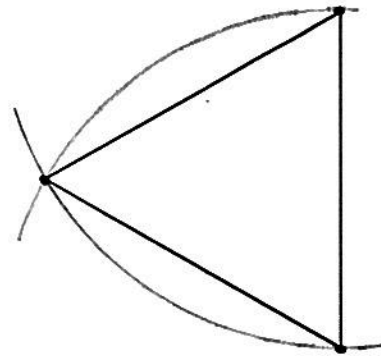


Construct an equilateral triangle on each of the segments.

15)

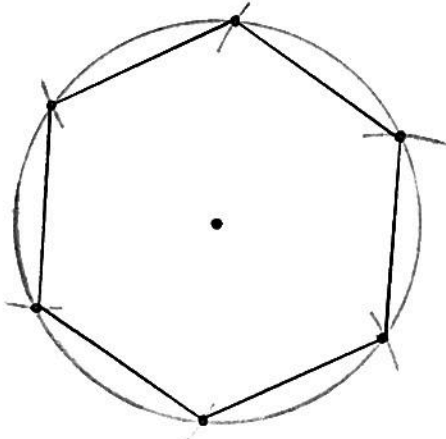


16)



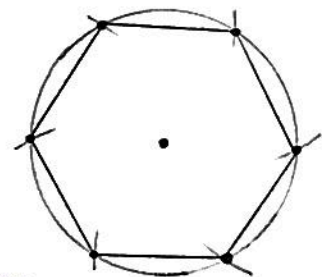
Construct two different sized hexagons in the spaces below.

17)



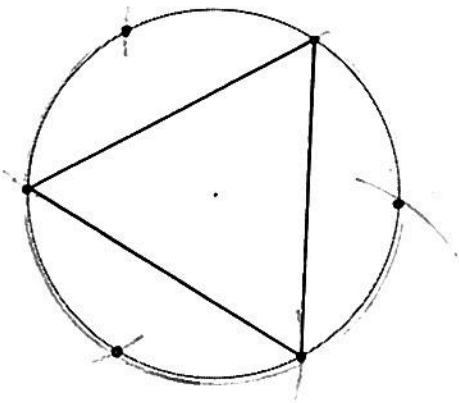
18)

★ Compass length MUST stay the same from making the circle to making your arcs around the circle

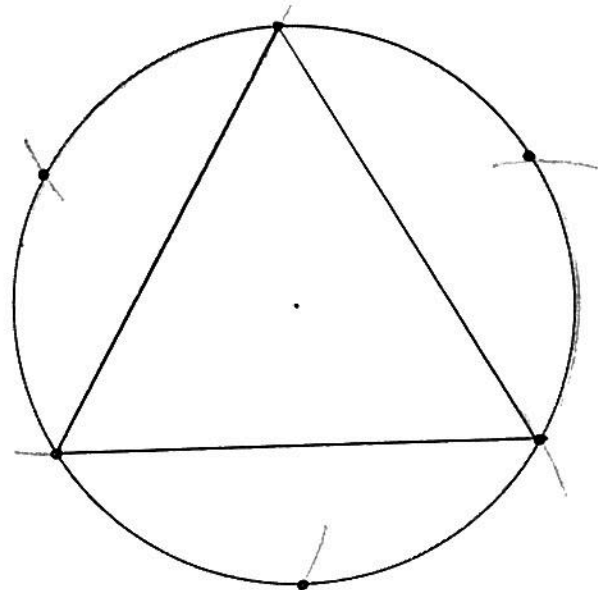


Construct an equilateral triangle inscribed in the circle.

19)

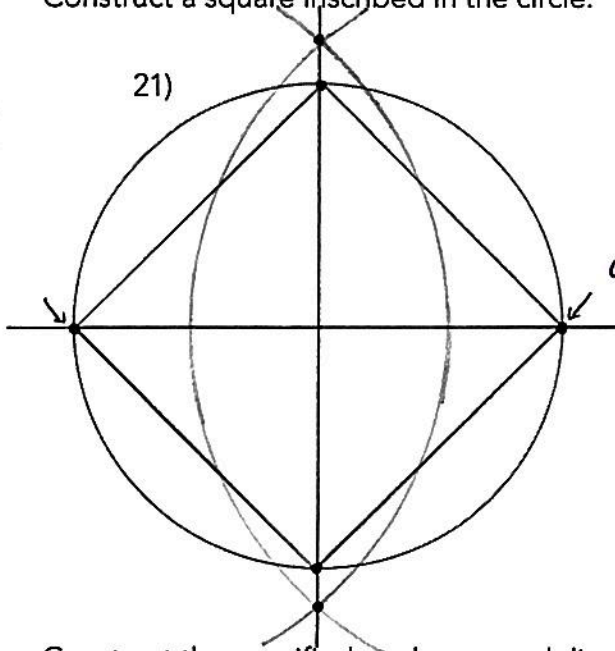


20)



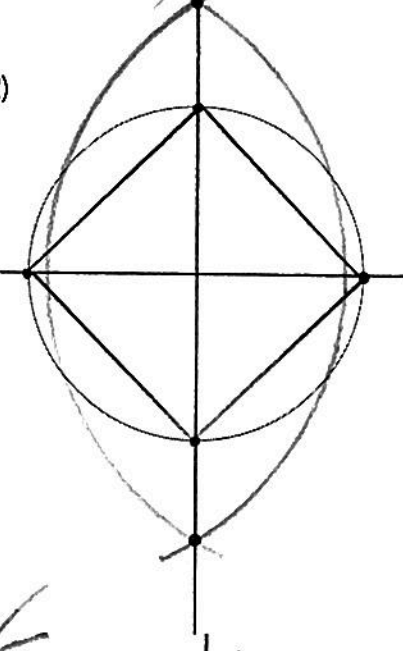
Construct a square inscribed in the circle.

21)



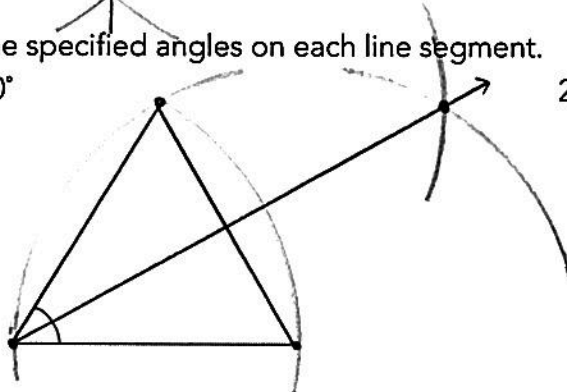
22)

Construct perpendicular bisector from these points

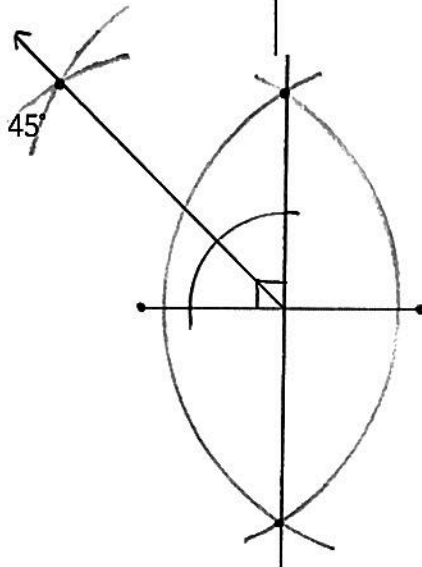


Construct the specified angles on each line segment.

23) 30°



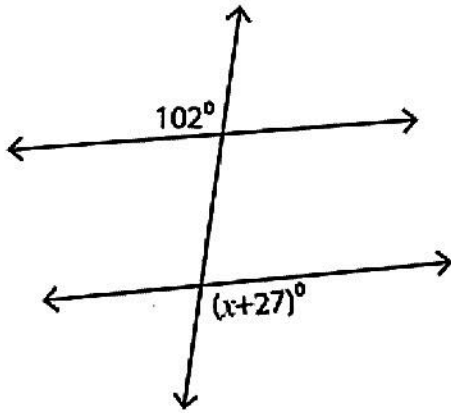
24) 45°



- ① Construct equilateral triangle
- ② bisect one of the angles

- ① Construct perpendicular
- ② bisect one of the right angle!

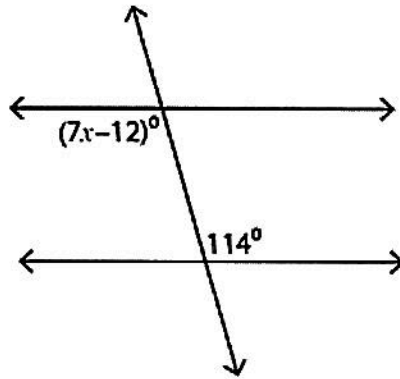
25. Find the value of x in each of the following diagrams:



$$\begin{array}{r} 102 = x + 27 \\ -27 \quad -27 \\ \hline 75 = x \end{array}$$

- alternate exterior angles

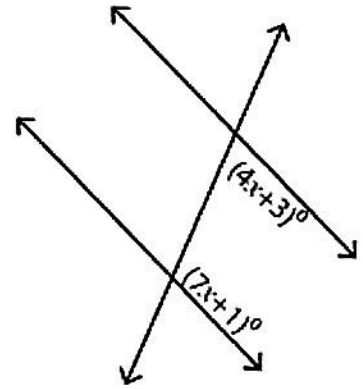
$x = \underline{75}$



$$\begin{array}{r} 7x - 12 = 114 \\ 7x = 126 \\ \hline x = 18 \end{array}$$

- alternate interior angles

$x = \underline{18}$

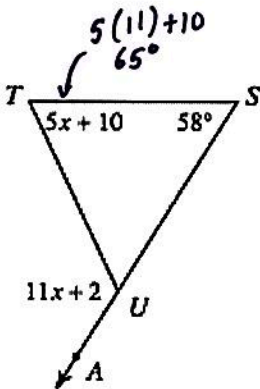


$$\begin{array}{r} 4x + 3 + 2x + 1 = 180 \\ 6x + 4 = 180 \\ 6x = 176 \\ x = 16 \end{array}$$

- same side interior angles

$x = \underline{16}$

26. What is the value of x ? Also, what is the measure of $\angle TUS$?



EXTERIOR ANGLE THEOREM

$$11x + 2 = 5x + 10 + 58$$

$$\begin{array}{r} 11x + 2 = 5x + 68 \\ -5x \quad -5x \\ \hline 6x + 2 = 68 \end{array}$$

$$\begin{array}{r} 6x + 2 = 68 \\ -2 \quad -2 \\ \hline 6x = 66 \end{array}$$

$$6x = 66$$

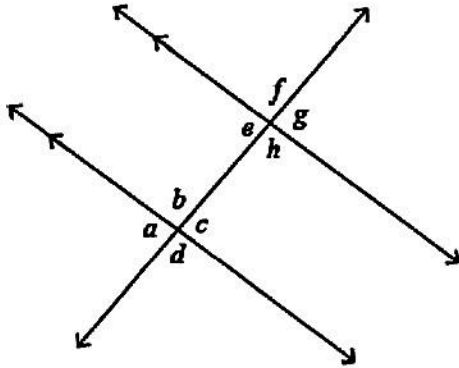
$$\boxed{x = 11}$$

$$\boxed{\angle TUS = 57}$$

$$65 + 58 + \angle TUS = 180$$

$$123 + \angle TUS = 180$$

26.



Name a pair of vertical angles:

$\angle a$ and $\angle c$

Name a pair of supplementary angles:

$\angle c$ and $\angle d$

Name 2 pairs of corresponding angles:

$\angle f$ and $\angle b$

$\angle g$ and $\angle c$

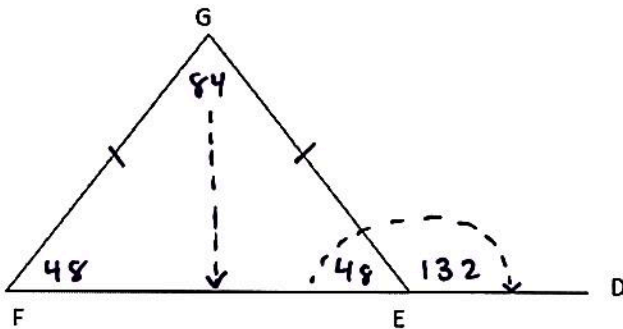
Name a pair of same-side interior angles:

$\angle e$ and $\angle b$

The measure of $\angle GED$ is 132 degrees. $\triangle FGE$ is isosceles with side FG congruent to side EG .

27. What is the measure of $\angle G$?

28. What is the longest side of the triangle? Justify your answer.



$$48 + 48 + \angle G = 180$$

$$96 + \angle G = 180$$

$$\boxed{\angle G = 84}$$

Side \overline{FE} is the longest side of the triangle because the longest side is opposite the largest angle (which is 84°).