

# KEY

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Period: \_\_\_\_\_

## Sec I - Term I "NEED TO KNOWS"

1) How do you find the perimeter of a figure when you are only given the vertices? *Pythagorean Theorem*

2) How do you find the distance between two points?

$$\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

Where does the distance formula come from?

*Pythagorean Theorem*

a) Find the distance between A(5,7) and B(2,3).

$$3^2 + 4^2 = c^2$$

5

3) What is the Pythagorean Theorem?

$$a^2 + b^2 = c^2$$

What does the c represent?

hypotenuse

Can you ever solve a Pythagorean Theorem problem without taking a square root?

NO

4 a) Find the perimeter of a figure which has vertices at (0, 0), (5, 1), and (1, 4).

$4^2 + 1^2 = c^2$   
 $17 = c^2$   
 $c = \sqrt{17} \approx 4.12$

Perimeter:  $5 + 1 + 4.12 = 10.12$

$3^2 + 4^2 = c^2$   
 $25 = c^2$   
 $c = 5$

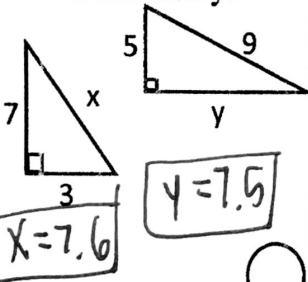
Perimeter:  $5 + 1 + 5 = 11$

$5^2 + 12^2 = c^2$   
 $169 = c^2$   
 $c = 13$

Perimeter:  $5 + 12 + 13 = 30$

**14.22**

4) Solve for x and y. Round to the nearest 10<sup>th</sup> if necessary.



5) Draw an example of the following:

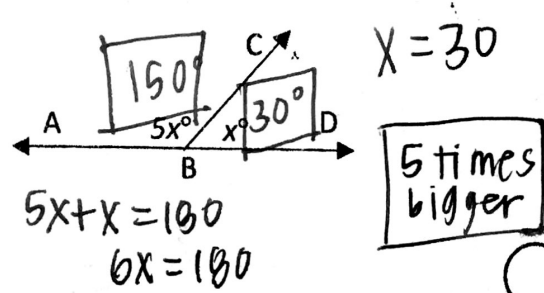
Acute angle

Obtuse angle

Right angle

Straight angle

6) What is the measure of each angle? How many times bigger is  $\angle ABC$  than  $\angle CBD$ ?



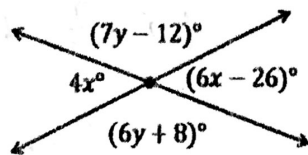
7) Draw an example of vertical angles.



What do we know about vertical angles?

they are congruent

8)



How can you solve for x?

$$4x = 6x - 26$$

How can you solve for y?

$$7y - 12 = 6y + 8$$

Why can you do that?

vertical angles

9) Solve for x and y from question #8.

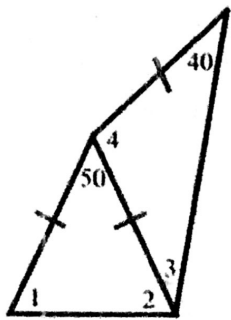
$$\begin{aligned} -2x &= -26 \\ -2 & \quad -2 \\ \hline x &= 13 \end{aligned}$$

$$1y = 20$$

$$x = 13$$

$$y = 20$$

10) Which angles



can you find the measure of?

$\angle 1, \angle 2, \angle 3, \angle 4$

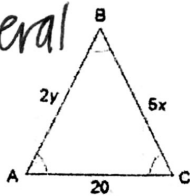
Find the measure of those angles.

$\angle 1 = 65^\circ$   
 $\angle 3 = 40^\circ$   
 $\angle 2 = 65^\circ$   
 $\angle 4 = 100^\circ$

11) What type of triangle is this?

Equilateral

How do you know?



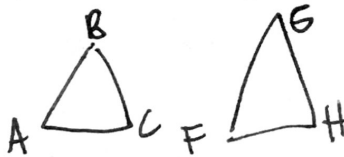
The angles are congruent

Find x and y.

$$2y = 20 \quad \boxed{y = 10}$$

$$5x = 20 \quad \boxed{x = 4}$$

12) Draw two triangles that are congruent.



Write a congruence statement for your triangles.

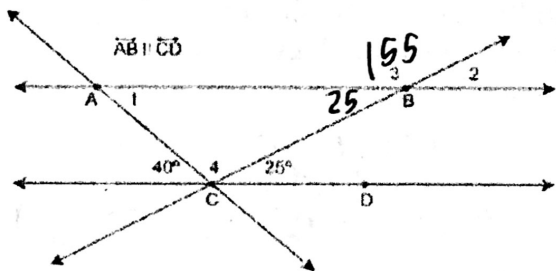
$$\triangle ABC \cong \triangle FGH$$

Does it matter what order the letters are in?

Yes

Why?

Because it shows us which angles and sides are congruent



USE FIGURE FOR 13-15

13) What is  $m\angle 4$ ?

$115^\circ$

How do you know?

$$40 + \angle 4 + 25 = 180$$

14) What is  $m\angle 1$ ?

$40^\circ$

How do you know?

Alternate Interior Angles

15) What is  $m\angle 3$ ?

$155$

How do you know?




supplemental angles

16) Write an example of translation notation.

$$(x-3, y+4)$$

What does your example mean?

~~How~~ translate to the left 3, up 4

<p>17) Translate the figure C(2,3), A(4,0), T(-1, -1) after a translation (x-2, y-5). What are the new coordinates?</p> <p>(0, -2) (-3, -6) (2, -6)</p> <p>What would the new coordinates be called?</p> <p>C' T' A'</p>	<p>18) What are the formulas for rotating an image around the origin?</p> <p>90° clockwise: <math>(x, y) \rightarrow (y, -x)</math></p> <p>180° clockwise: <math>(x, y) \rightarrow (-x, -y)</math></p> <p>270° clockwise: <math>(x, y) \rightarrow (-y, x)</math></p>	<p>19) What are the new coordinates of a figure that was rotated 270° clockwise around the origin if the original figure was A(-5,0), B(-4,6), C(2,4), and D(2,+1)?</p> <p><math>(x, y) \rightarrow (-y, x)</math></p> <p>A'(0, -6) B'(-6, -4) C'(-4, 2) D'(1, 2)</p>
<p>20) Draw an example of each:</p> <p>Normal distribution </p> <p>Positively skewed distribution </p> <p>Negatively skewed distribution </p>	<p>21) What does IQR stand for?</p> <p>Interquartile Range</p> <p>How do you find it?</p> <p><math>Q_3 - Q_1</math></p> <p>What is the outlier test?</p> <p><math>Q_1 - 1.5(IQR)</math> <math>Q_3 + 1.5(IQR)</math></p>	<p>22) Are there outliers in the following data? If so, which?</p> <p>27, 14, 12, 13, 15, 17, 13, 19, 12, 13, 17 and 1</p> <p><del>1, 12, 12, 13, 13, 15, 17, 17, 19, 27</del></p> <p>17-12 = 5 5 / 1.5 = 3.33</p> <p>12-7.5 = 4.5 17+7.5 = 24.5</p> <p>Outliers: 1, 27</p>
<p>23) Find the standard deviation of the following: {2, 15, 24, 14, 13, 5}</p> <p>7.15</p> <p>What is the symbol for standard deviation?</p> <p><math>\sigma</math></p> <p>What does standard deviation mean?</p> <p>How much the data varies from the mean</p>	<p>24) What can be used for the center and spread of the data?</p> <p>Mean, Median IQR, SD</p> <p>When do you use them?</p> <p>Normal - Mean SD skewed - Median IQR</p>	<p>25) If I wanted you to find a list where all of the original numbers were multiplied by 0.80, what would you type into your calculator in L2? 2nd 1</p> <p>L2 type L1 * .80</p> <p>What do you have to do to find the data (mean, median, etc.) for L2?</p> <p>stat <math>\rightarrow</math> calc <math>\rightarrow</math> Enter <math>\rightarrow</math> 2nd <math>\rightarrow</math> 2 <math>\rightarrow</math> Enter</p> <p>What happens if you just press enter after 1 var stats?</p> <p>It finds L1</p>