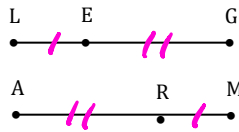


1. Part of a proof is shown. Place statements and reasons in the table to complete the proof.

Given $\overline{LE} \cong \overline{MR}$, $\overline{EG} \cong \overline{RA}$
Prove $\overline{LG} \cong \overline{MA}$



Statement	Reason
a. <u>$\overline{LE} \cong \overline{MR}$, $\overline{EG} \cong \overline{RA}$</u>	a. Given
b. $LE = MR$ $EG = RA$	b. <u>Def'n of Congruent Segments</u>
c. $LG = LE + EG$ $MA = MR + RA$	c. <u>Segment Add'n Postulate</u>
d. $LG = MR + RA$	d. Substitution Property of Equality (double)
e. <u>$LG = MA$</u>	e. Substitution Property of Equality
f. $\overline{LG} \cong \overline{MA}$	f. <u>Def'n of Congruent Segments</u>

2	A
3	B
4	$\frac{4450}{508} \frac{g}{cm^3}$
5	$y - 8 = \frac{1}{4}(x + 2)$
6	$\frac{7.595}{5.2}$
7	87.4 people per square mile (Round your answer to the nearest tenth.)
8	$\frac{2}{5}$
9	$y - 4 = \frac{3}{4}(x + 2)$

Q1 Review 1 2018

2. Which term is defined as an angle formed by two opposite rays?
 A. Straight angle
 B. Vertical angle
 C. Corresponding angle
 D. Complementary angle

3. Kevin asked Olivia what the Supplement Theorem is. Olivia responded, " $m\angle 1 + m\angle 2 = 180$." What definition did Olivia actually give?

- A. Definition of a straight angle
 B. Definition of supplementary angles
 C. Definition of complementary angles
 D. Definition of transversal

4. Jeremy wants to know the density of a rock in grams per cubic centimeter. The rock has a mass of 4.45 kilograms and a volume of 508 cubic centimeters.

What is the density of the rock, in grams per cubic centimeter ($\frac{g}{cm^3}$)?

$$\frac{4.45 \text{ kg}}{508} \cdot \frac{1000 \text{ g}}{1 \text{ kg}} = 4450 \frac{g}{cm^3}$$

5. Line k has a slope of 4. Line j is perpendicular to line k and passes through the point $(-2, 8)$. Create the equation for line j .

Point	Slope	Point-Slope form
$(-2, 8)$	$m = 4$ $+m = \frac{1}{4}$	$y - y_1 = m(x - x_1)$ $y - 8 = \frac{1}{4}(x + 2)$

6. \overline{AC} has endpoints $A(-1, -3.5)$ and $C(5, -1)$. Point B is on \overline{AC} and is located at $(0.2, -3)$.

What is the ratio of $\frac{AB}{BC}$?

$$AB = \sqrt{[\Delta x]^2 + [\Delta y]^2} \quad BC = \sqrt{[\Delta x]^2 + [\Delta y]^2}$$

$$= \sqrt{[-1 - 0.2]^2 + [-3.5 - (-3)]^2} \quad = \sqrt{[(5) - (0.2)]^2 + [(-1) - (-3)]^2}$$

$$= \sqrt{[-1.2]^2 + [-0.5]^2} \quad = \sqrt{[4.8]^2 + [2]^2}$$

$$= \sqrt{1.44 + 0.25} \quad = \sqrt{23.04 + 4}$$

$$= \sqrt{1.69} \quad = \sqrt{27.04}$$

$$AB \approx 1.3 \quad BC = 5.2$$

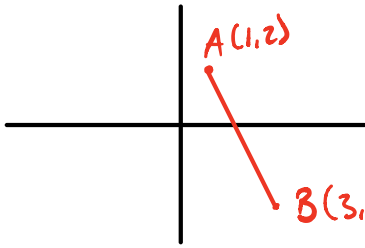
$$\frac{AB}{BC} \approx \frac{1.3}{5.2}$$

7. A study reports that in 2010 the population of the United States was 308,745,538 people and the land area was approximately 3,531,905 square miles. Based on the study, what was the population density, in people per square mile, of the United States in 2010? Round your answer to the nearest tenth.

87.4 people per square mile

$$\frac{308,745,538 \text{ people}}{3,531,905 \text{ miles}^2} \approx 87.4 \text{ P/mi}^2$$

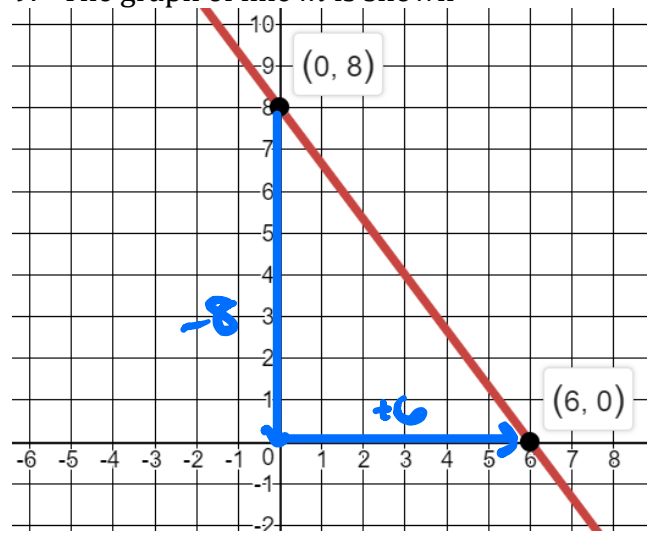
8. Square ABCD has vertices at A(1, 2) and B(3, -3). What is the slope of \overline{BC} ?



$$m_{\overline{AB}} = \frac{\Delta y}{\Delta x} = \frac{2 - (-3)}{1 - 3} = \frac{5}{-2}$$

$$m_{\overline{BC}} = \perp m_{\overline{AB}} = \frac{2}{5}$$

9. The graph of line m is shown



What is the equation of the line that is perpendicular to line m and passes through the point (-2, 4)?

<u>Point</u>	<u>Slope</u>	<u>Point-Slope form</u>
(-2, 4)	$m = -4/3$	$y - y_1 = m(x - x_1)$
	$\perp m = \frac{3}{4}$	$y - 4 = \frac{3}{4}(x + 2)$