

**8-1 & 8-2 Quiz**





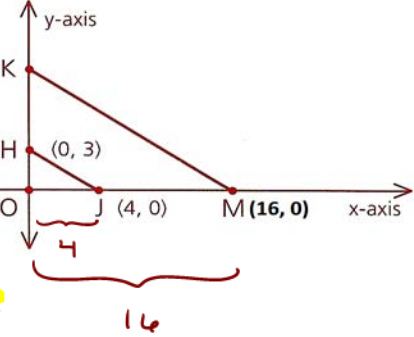
This assessment is worth 26 points.

Vocabulary: Match the word with the definition. Record the letter in the right-most column. (1 point each)

1. dilation	A. a value repeated in either the means or extremes position of a proportion	1. <b>B</b>
2. similar figures	B. enlargement	2. <b>D</b>
3. arithmetic mean	C. equal to the product of the extremes	3. <b>K</b>
4. ratio	D. have the same shape but not necessary the same size	4. <b>G</b>
5. reduction	E. is an equation stating that two or more ratios are equal	5. <b>F</b>
6. congruent figures	F. smaller	6. <b>M</b>
7. geometric mean	G. quotient of two numbers	7. <b>A</b>
8. proportion	H. ratio of the <b>rise</b> between any two points on the line to <b>run</b> between the two points	8. <b>E</b>
9. product of the means	K. sum of a list divided by the count of the list	9. <b>C</b>
10. slope of a line	M. figures with all pairs of corresponding parts congruent	10. <b>H</b>

Problems 10 – 17 are 2 points each.

11.	Find the fourth proportional of 1, 2, 5  $\frac{1}{2} = \frac{5}{x}$ , $x = 10$
12.	Find the ratio of x to y: $\frac{3}{x+5} = \frac{9}{y+15}$ $3y + 45 = 9x + 45$ , $\frac{3y}{9} = \frac{9x}{9}$ , $\frac{1}{3} = \frac{x}{y}$

13.	<p>Given two equilateral triangles with sides in the ratio of 2:3, find</p> <p>a. The ratio of their perimeters = ratio of sides ∴ 2:3</p> <p>b. The ratio of their areas = (ratio of sides)<sup>2</sup> ∴ 4:9</p>
14.	<p>Find the arithmetic mean of 1 &amp; 3. (Provide an exact number, not a decimal approximation.)</p> $\frac{\text{SUM}}{\text{COUNT}} = \frac{1+3}{2} = 2$
15.	<p>Find the geometric mean of 1 &amp; 3. (Provide an exact number, not a decimal approximation.)</p> $\frac{1}{x} = \frac{x}{3} \rightarrow x^2 = 3 \rightarrow x = \pm\sqrt{3}$
16.	<p>If 3 is the mean proportional between 6 and another number, find the number.</p> $\frac{x}{3} = \frac{3}{6} \rightarrow 6x = 9 \rightarrow x = \frac{9}{6} \text{ or } \frac{3}{2}$
17.	<p>Circle the letters (that is a, b, c, d) of the pairs of figures that appear to be similar.</p> <p>a </p> <p>b </p> <p>c </p> <p>d </p>
18.	<p><math>\triangle OKM</math> is a dilation of <math>\triangle OHJ</math>, with a dilation ratio of 4:1 for each pair of corresponding sides.</p> <p>a Find the <u>coordinates</u> of K. (0, 12)</p> <p>b Find the <u>lengths</u> of the sides of <math>\triangle OHJ</math>. <math>OK</math></p> <p>c Find the <u>lengths</u> of the sides of <math>\triangle OKM</math>. (12, 16, 20)</p>  <p>a) <math>\frac{OJ}{OM} = \frac{OH}{OK} \rightarrow \frac{4}{16} = \frac{3}{OK} \rightarrow \frac{1}{4} = \frac{3}{OK} \rightarrow OK = 12</math></p> <p>b) Pyth Thm: <math>leg^2 + leg^2 = hyp^2 \Rightarrow 3^2 + 4^2 = JH^2 \rightarrow 9 + 16 = 25 \rightarrow JH = 5</math>          sides of <math>\triangle OHJ = (3, 4, 5)</math></p> <p>c) <math>\triangle OKM = 4(\triangle OHJ) = 4(3, 4, 5) = (12, 16, 20)</math></p>