

8th grade math final

Name Key  
Mrs. Roubos

Date \_\_\_\_\_  
8R Period \_\_\_\_\_

Homework Day 3

<p>1. Triangle ABC is translated 4 units right and 4 units down. What are the coordinates of A'?</p> <p><math>A'(-1, -2)</math></p> <p>* Slide the figure 4 → 4 ↓ * Don't forget the primes</p>	<p>2. The figures below are transformations of one another. How was the triangle in Quadrants II + III transformed to make the triangle in Quadrants III + IV?</p> <p>Reflection over the x-axis (horizontal axis)</p> <p>* Same shape &amp; size, opposite direction</p>
<p>3. What are the coordinates of B', the image of B(0, 8) after a dilation with a scale factor of 4?</p> <p>multiply <math>B(0, 8) \rightarrow B'(0, 32)</math></p>	<p>4. What is the image of (3, 10) under a dilation of 5?</p> <p><math>(3, 10) \xrightarrow{D_5} (15, 50)</math></p> <p>multiply</p>
<p>5. Under what type of transformation is size not preserved?</p> <p>Size does not stay the same</p> <p>Dilation</p>	<p>6. Point A has coordinates (3, 7). After a dilation, the coordinates of point A' are (15, 35). What is the scale factor for the dilation?</p> <p><math>A(3, 7) \xrightarrow{D_5} A'(15, 35)</math></p> <p>Scale factor = 5</p>
<p>7. Which sequence of transformations is performed so that Figure 1 is congruent to figure 3?</p> <p>1 → 2 Translation (slide) 2 → 3 Rotation (Turn)</p>	<p>8. What is the image of Point A(6, 4) when rotated 180° about the origin?</p> <p>Same as reflection over the origin</p> <p><math>A(6, 4) \rightarrow A'(-6, -4)</math></p> <p>* change the sign of both x &amp; y</p>
<p>9. Find the missing side length, x, to the nearest tenth.</p> <p><math>\frac{3}{x} = \frac{9}{8.5}</math></p> <p><math>\frac{4x}{4} = \frac{25.5}{4}</math></p> <p><math>x = 6.4</math></p> <p>* Set up a proportion, cross-multiply &amp; solve * Round to the nearest tenth</p>	<p>10. If you translate the figure four units left and two units down, what are the coordinates of T'?</p> <p><math>R'(-1, 1)</math> <math>S'(0, -1)</math> <math>T'(-2, -4)</math></p> <p>* Slide the figure 4 ← and 2 ↓ * Don't forget the primes</p>

11. Write 16,500,000 in scientific notation

$$1.65 \times 10^7$$

2nd DRG  $\Rightarrow$  SCI  $\Rightarrow$

12. In scientific notation, what is the sum of:  
 $4.6 \times 10^{-4}$  and  $6.23 \times 10^{-5}$ ?

$$(4.6 \times 10^{-4}) + (6.23 \times 10^{-5}) = 5.223 \times 10^{-4}$$

MUST USE parentheses  $\Rightarrow$  2nd DRG  $\Rightarrow$  SCI  $\Rightarrow$

13. Write  $4.16 \times 10^{-5}$  in standard form.

$$0.0000416$$

2nd DRG  $\leftarrow$  FLO  $\Rightarrow$

14. Write  $2.45 \times 10^6$  in standard form.

$$2,450,000$$

2nd DRG  $\Rightarrow$  FLO  $\Rightarrow$

15. Evaluate:  $\frac{4^6}{4^1} = 4^{6-1} = 4^5$   
 Add the 1  $\quad \Rightarrow$  subtract the exponents

16. Evaluate:  $7^8 \cdot 7^{-1} \cdot 7^6 = 7^{8+(-1)+6} = 7^3$   
 Add the 1  $\quad \Rightarrow$  Add the exponents


17. Express 0.00000035 in scientific notation

$$3.5 \times 10^{-7}$$

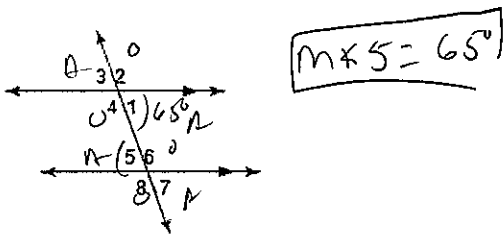
2nd DRG  $\Rightarrow$  SCI  $\Rightarrow$

18. In  $\triangle ABC$ , the measure of  $\angle A$  is  $25^\circ$  and the measure of  $\angle C$  is  $90^\circ$ . What is the measure of  $\angle B$ ?

25 + 90 + x = 180  $\Rightarrow$  Add the 2 angles  
 $115 + x = 180$   
 $-115 \quad -115$   
 $x = 65$   
 $m\angle B = 65^\circ$

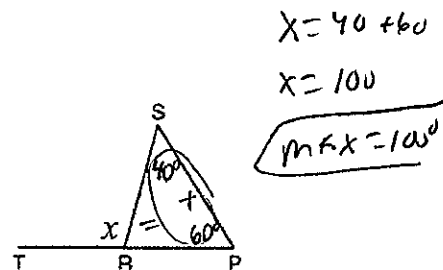


19. In the figure below, what is  $m\angle 5$  if  $m\angle 1 = 65^\circ$ ?



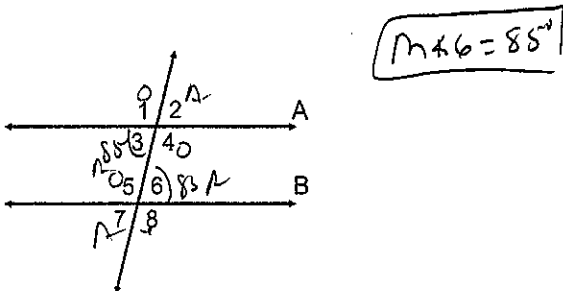
$\Rightarrow$  Alternate interior angles are =

20. What is the value of  $x$  in the diagram shown?



$\Rightarrow$  Add up the 2 inside angles together

21. Lines A and B are parallel lines. The  $m\angle 3$  is  $85^\circ$ . Find the  $m\angle 6$ .



$\Rightarrow$  Alternate interior angles are =

22. Solve for  $x$ :

$$7x - 65 = 5x - 25$$

$$\begin{array}{r} -5x \\ \hline 2x - 65 = -25 \\ +65 \quad +65 \\ \hline 2x = 40 \\ \frac{2x}{2} = \frac{40}{2} \\ x = 20 \end{array}$$

