

**TEST REVIEW – 9.1 & 9.2**  
**PYTHAGOREAN THEOREM & SPECIAL RIGHT TRIANGLES**  
**5 points added to your test, if complete**

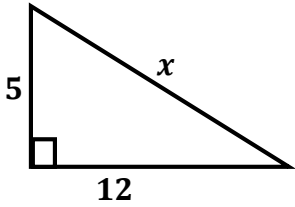
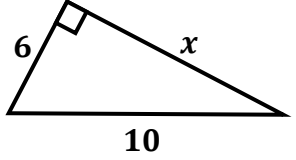
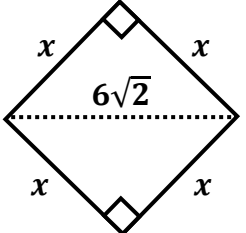
**PART 1: RADICALS**

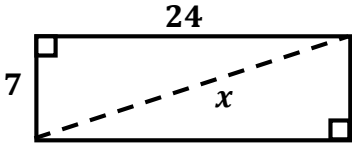
Simplify each of the following radicals.

1. _____	$\sqrt{24}$	$-5\sqrt{24}$	2. _____
3. _____	$\sqrt{160}$	$\sqrt{576}$	4. _____
5. _____	$7\sqrt{32}$	$10\sqrt{175}$	6. _____

**PART 2: PYTHAGOREAN THEOREM**

For each of the following, find the value of 'x'.

7. $x =$ _____	
8. $x =$ _____	
9. $x =$ _____	

10. $x =$ _____	
11. $x =$ _____	A rectangle has a diagonal of 2 cm and a length of $\sqrt{3}$ cm. Find its width.
12. $x =$ _____	Find the length of a diagonal of a square with a perimeter of 16.

**PART 3: CONVERSE OF THE PYTHAGOREAN THEOREM**

Tell whether a triangle with sides of given lengths can be formed, and, if so, classify it as acute, right, or obtuse.

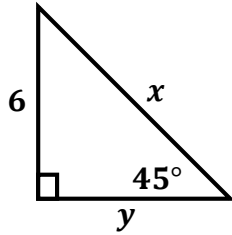
13. Can a triangle be formed? YES or NO Classification:	Side lengths: 9, 8, and 3
14. Can a triangle be formed? YES or NO Classification:	Side lengths: 8, $8\sqrt{3}$ , 16
15. Can a triangle be formed? YES or NO Classification:	Side lengths: 11, 11, 15
16. Can a triangle be formed? YES or NO Classification:	Side lengths: 8, 14, 22

**PART 4:  $45^\circ - 45^\circ - 90^\circ$  &  $30^\circ - 60^\circ - 90^\circ$  TRIANGLES**

For each of the following, find the missing lengths.

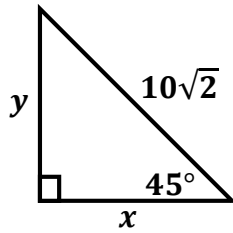
17.  $x =$  \_\_\_\_\_

$y =$  \_\_\_\_\_



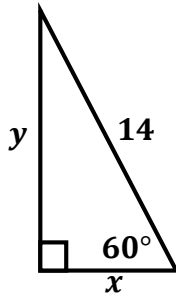
18.  $x =$  \_\_\_\_\_

$y =$  \_\_\_\_\_



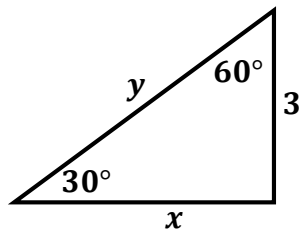
19.  $x =$  \_\_\_\_\_

$y =$  \_\_\_\_\_



20.  $x =$  \_\_\_\_\_

$y =$  \_\_\_\_\_

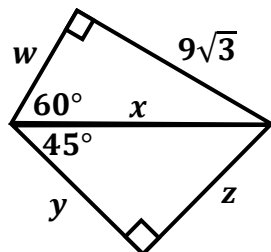


21.  $w =$  \_\_\_\_\_

$x =$  \_\_\_\_\_

$y =$  \_\_\_\_\_

$z =$  \_\_\_\_\_



**PART 5: REVIEW PROBLEMS**

<p>22. AB = _____</p>	<p>B is between A and C. If <math>AB = 2x - 5</math>, <math>BC = x - 2</math>, and <math>AC = 20</math>, find AB.</p>
<p>23. <math>x =</math> _____</p>	<p><math>\overrightarrow{BD}</math> bisects <math>\angle ABC</math>, <math>m\angle ABC = 67^\circ</math>, and <math>m\angle ABD = (3x - 1)^\circ</math>. Find the value of 'x'.</p>
<p>24. <math>x =</math> _____</p>	<p><math>\angle 1</math> and <math>\angle 2</math> are same side interior angles formed by two parallel lines and a transversal. If <math>m\angle 1 = (4x - 3)^\circ</math> and <math>m\angle 2 = (3x + 1)^\circ</math>, find the value of 'x'.</p>

# A Mishmash of Answers:

$4\sqrt{10}$	$4\sqrt{2}$		13	13
6	1	$-10\sqrt{6}$	Yes, obtuse	$9\sqrt{2}$
7	8	$3\sqrt{3}$	6	24
25	$6\sqrt{2}$	9	$50\sqrt{7}$	
	$2\sqrt{6}$	18	6	
10	$7\sqrt{3}$	No	$9\sqrt{2}$	Yes, acute
26	Yes, right	$28\sqrt{2}$	$\frac{23}{2}$	10