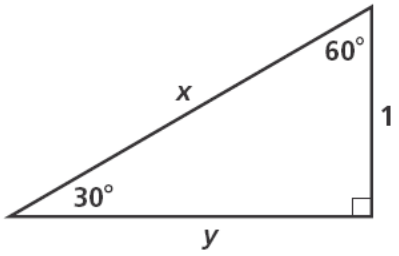
Name: _____ Hour: _____ Date: _____

Practice 8-3

Special Right Triangles

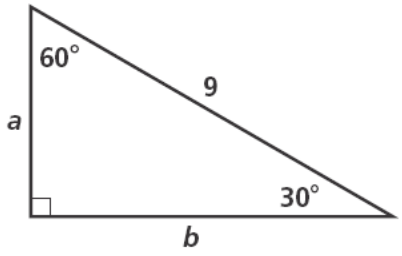
Find the value of each variable. Leave your answers in simplest radical form.

1.



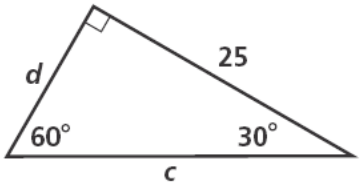
x = _____ ***y*** = _____

2.



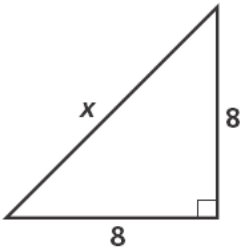
a = _____ ***b*** = _____

3.



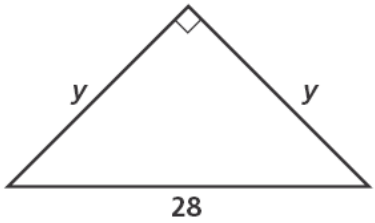
c = _____ ***d*** = _____

4.



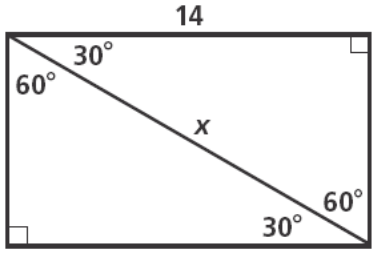
x = _____

5.



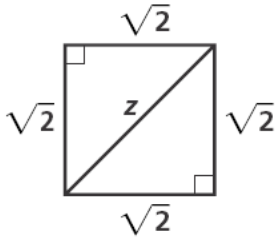
y = _____

6.



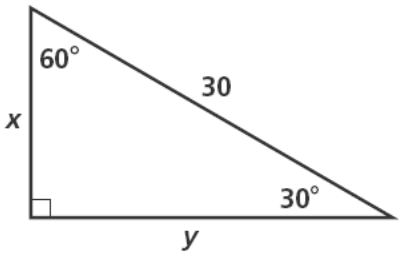
x = _____

7.



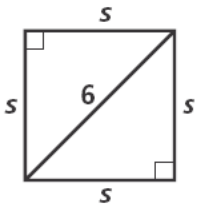
z = _____

8.



x = _____ ***y*** = _____

9.



s = _____

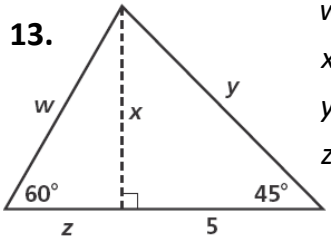
10. Find the length to the nearest centimeter of the diagonal of a square with 30 cm on a side.

11. The hypotenuse of an isosceles right triangle is 8.4 in. find the length of a side to the nearest tenth.

12. In a 30°- 60° - 90° triangle, the shorter leg is 6 ft long. Find the length of the other two sides to the nearest tenth.

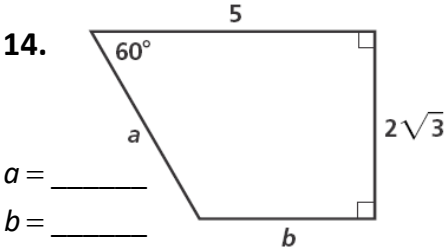
Algebra **Find the value of each variable. Leave your answers in simplest radical form.**

13.



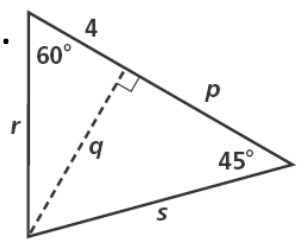
w = _____
x = _____
y = _____
z = _____

14.



a = _____
b = _____

15.

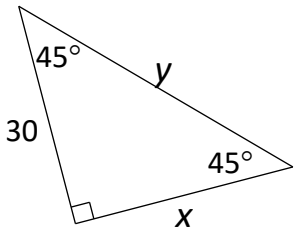


p = _____
q = _____
r = _____
s = _____

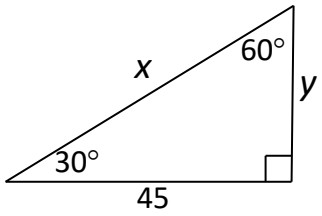
Chapter 8
Practice Worksheet 1

(Use with section 8-3)

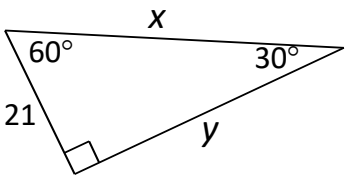
Find the values of *x* and *y* in each of the following triangles.

1. 

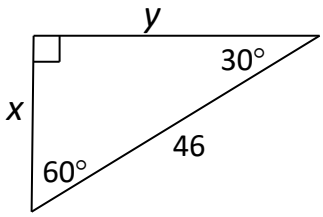
x = _____ y = _____

2. 

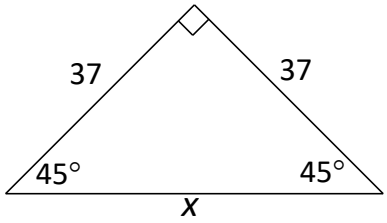
x = _____ y = _____

3. 

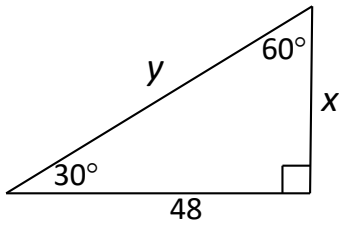
x = _____ y = _____

4. 

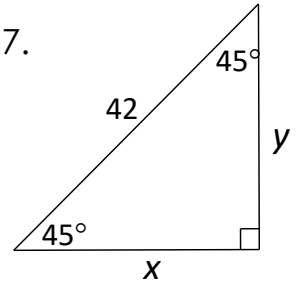
x = _____ y = _____

5. 

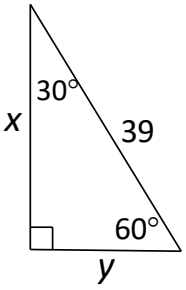
x = _____

6. 

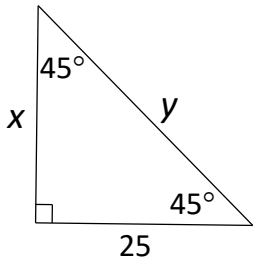
x = _____ y = _____

7. 

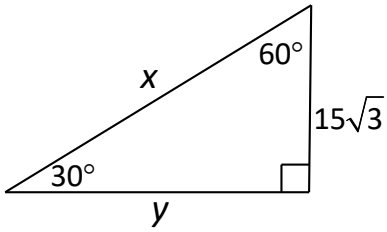
x = _____ y = _____

8. 

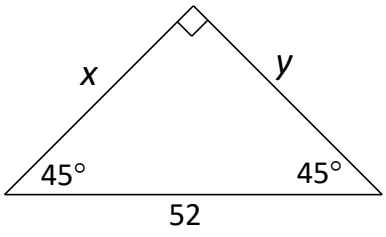
x = _____ y = _____

9. 

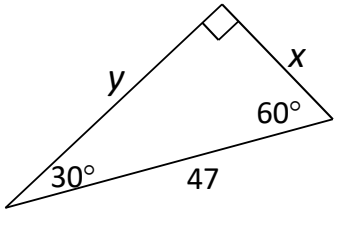
x = _____ y = _____

10. 

x = _____ y = _____

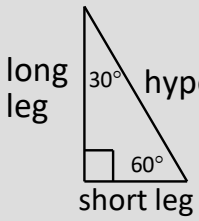
11. 

x = _____ y = _____

12. 

x = _____ y = _____

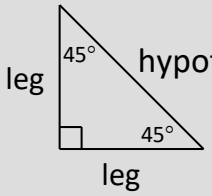
Special Right Triangles



$$\text{short leg} = \frac{1}{2} \cdot \text{hypotenuse}$$

$$\text{long leg} = \sqrt{3} \cdot (\text{short leg})$$

$$\text{hypotenuse} = 2 \cdot (\text{short leg})$$

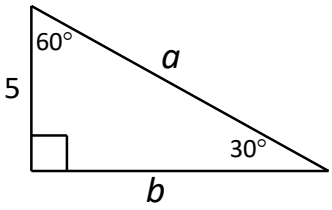


legs are equal

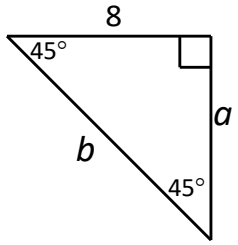
$$\text{hypotenuse} = \sqrt{2} \cdot (\text{leg})$$

Use the 30-60-90 and 45-45-90 triangle relationships to solve for the missing sides. Use the answers to reveal the name of the team that Abraham M. Saperstein established and sent on the road in 1927.

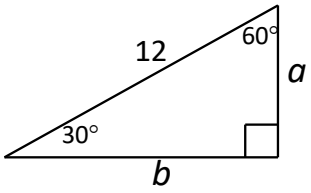
1



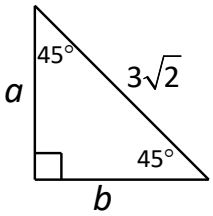
2



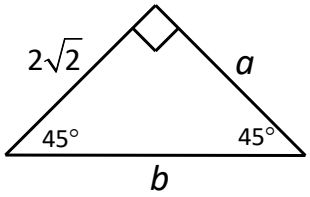
3



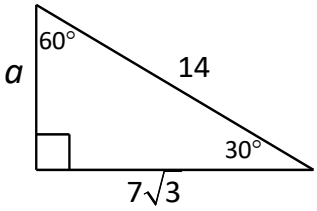
4



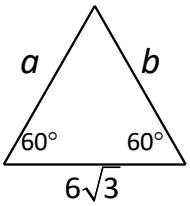
5



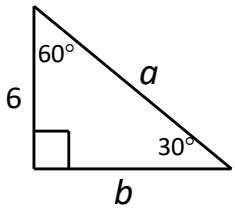
6



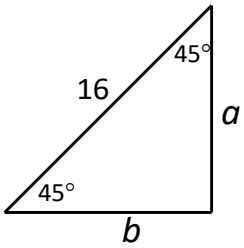
7



8



9



8	$2\sqrt{2}$	3	6	$5\sqrt{3}$	4	7	12	$8\sqrt{2}$	10	$6\sqrt{3}$
A	B	E	G	H	L	M	O	R	S	T

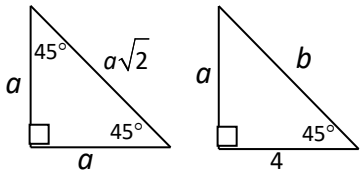
8b	1b	4a	1b	2a	9b	5b	4b	6a	

3a	5b	8a	5a	4a	7a	2b	8a	7b	3b	4b	9a	1a

Name: _____ Date: _____ Hour: _____

Special Right Triangles

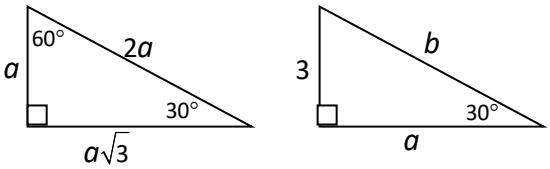
Isosceles Right Triangle



$a = 4$

$b = 4\sqrt{2}$

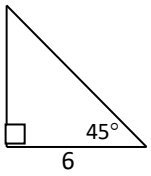
30-60-90 Triangle

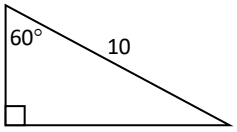


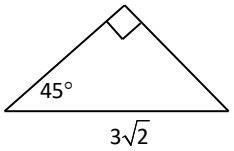
$a = 3\sqrt{3}$

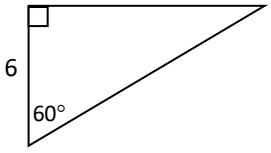
$b = 2 \cdot 3 = 6$

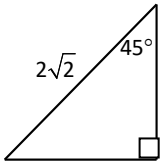
Find the missing sides.

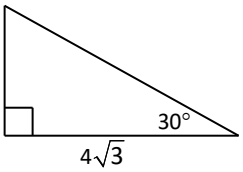
1. 

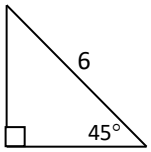
2. 

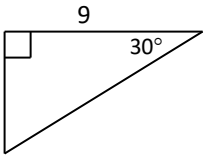
3. 

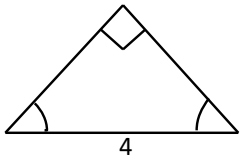
4. 

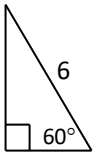
5. 

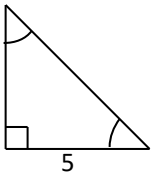
6. 

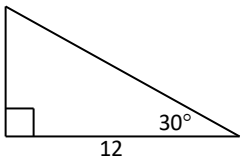
7. 

8. 

9. 

10. 

11. 

12. 

Cross out the correct answers. The remaining letters (one per space) complete the statement.

5 EQ	9 HA	$6\sqrt{2}$ UA	3 LT	10 LF	$3\sqrt{2}$ OT	3 HE	$4\sqrt{3}$ SQ	$3\sqrt{2}$ UA	12 RE	$2\sqrt{2}$ RO
$6\sqrt{3}$ OT	$5\sqrt{3}$ OF	25 TH	$3\sqrt{3}$ ER	$6\sqrt{3}$ AD	5 IU	20 EH	3 SO	$3\sqrt{3}$ FT	36 YP	2 PY
11 OT	4 TH	16 EN	6 AG	8 OR	32 US	$5\sqrt{2}$ AS	2 TH	7 E.	$8\sqrt{3}$ T.	$2\sqrt{2}$ S.

In a 30-60-90 degrees right triangle, the side opposite the 30-degree angle is

___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___