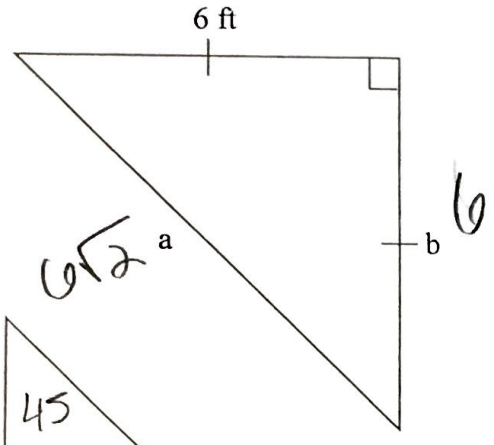
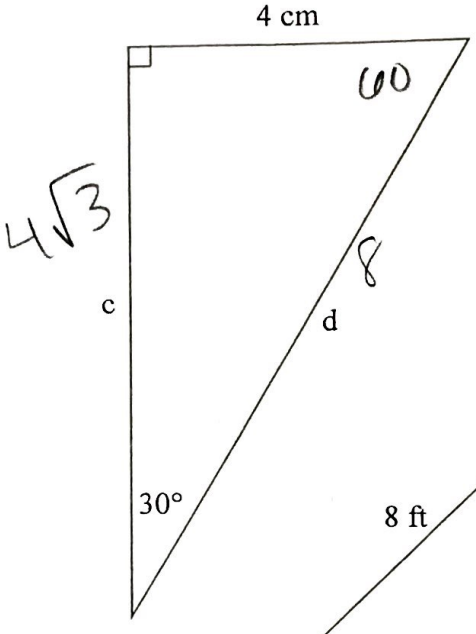
Math 2 – Honors
Unit 7 – Right Triangle Trigonometry
Special Right Triangles TEST REVIEW

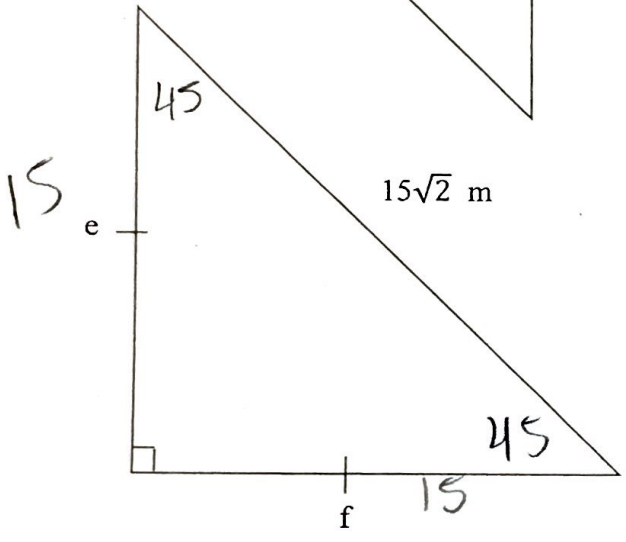
Name_____
Date_____ Pd_____

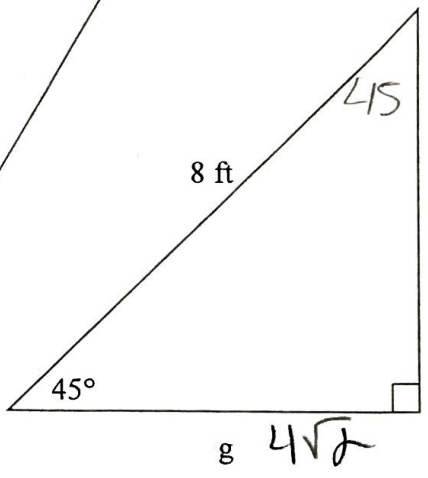
Find the length of every variable. Leave your answers as **simplified radicals**.

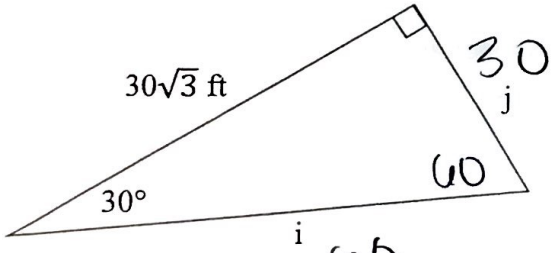


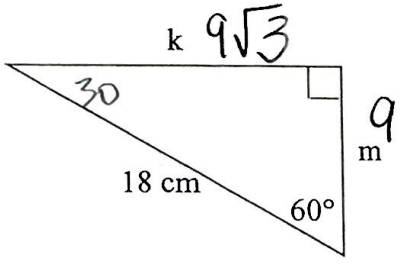


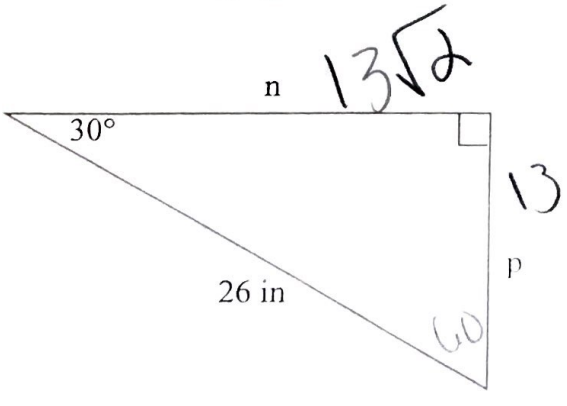
$\frac{8}{\sqrt{2}} = \frac{x\sqrt{2}}{\sqrt{2}}$ $\frac{8\sqrt{2}}{2}$

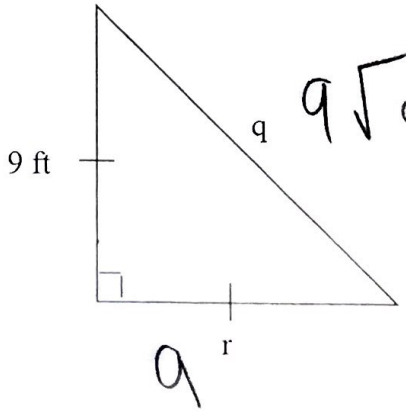




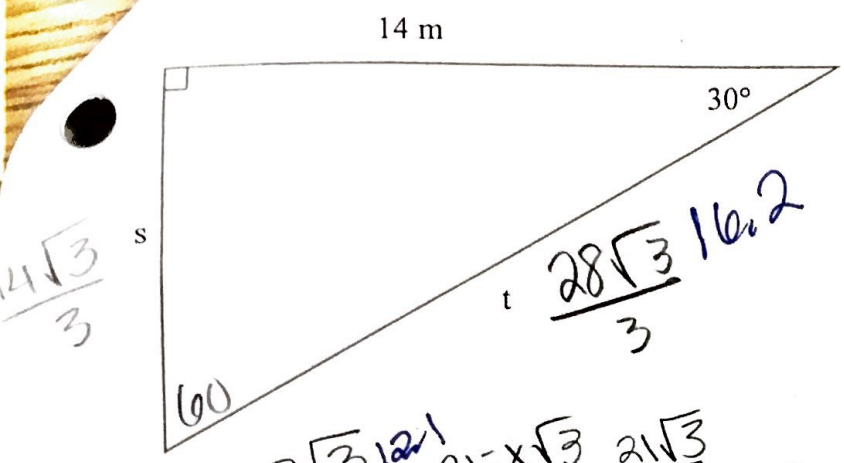






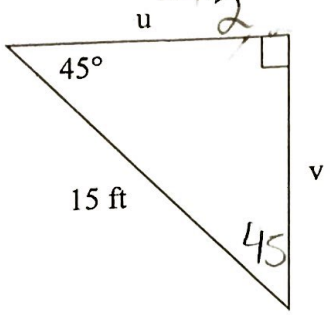


$14 = x\sqrt{3}$ $\frac{14\sqrt{3}}{3}$



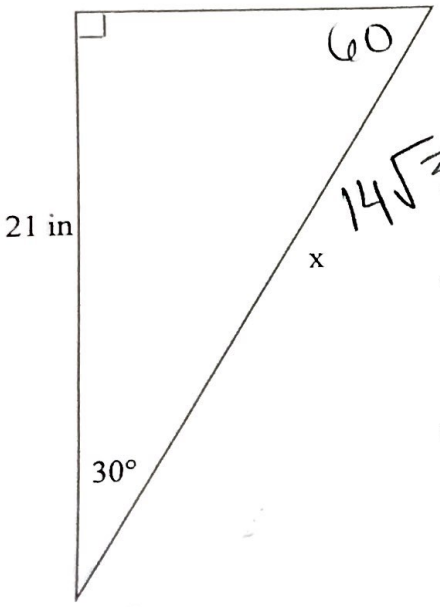
$\frac{14\sqrt{3}}{3}$ $\frac{28\sqrt{3}}{3}$ 16.2

$\frac{15\sqrt{2}}{2}$ $\frac{15}{\sqrt{2}} = \frac{x\sqrt{2}}{\sqrt{2}}$

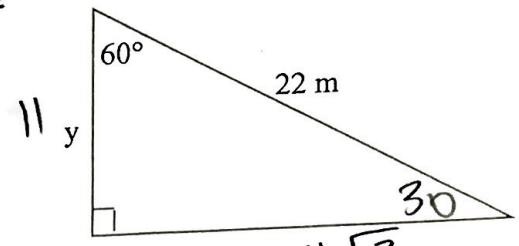


10.6 $\frac{15\sqrt{2}}{2}$

$7\sqrt{3}$ 12.1 $21 = x\sqrt{3}$ $\frac{21\sqrt{3}}{3}$

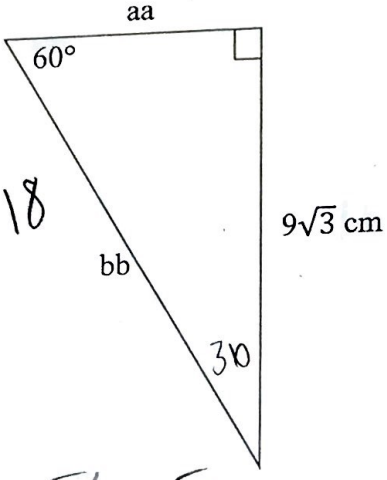


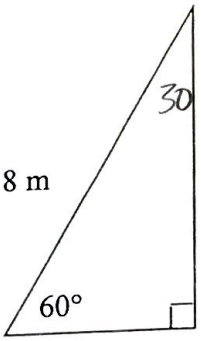
$14\sqrt{3}$



$11\sqrt{3}$

9





$4\sqrt{3}$

4 cc

$\frac{9\sqrt{3}}{\sqrt{3}} = \frac{x\sqrt{3}}{\sqrt{3}}$

a.	b.	c.	d.	e.	f.
g.	h.	i.	j.	k.	m.
n.	p.	q.	r.	s.	t.
u.	v.	w.	x.	y.	z.
aa.	bb.	cc.	dd.		

Math 2 – Honors
Unit 7 – Right Triangle Trigonometry
Test Review

Name_____
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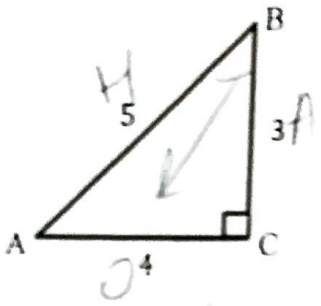
➢ Express each ratio is simplest form:

1. $\sin A =$ 3/5	4. $\sin B =$ 4/5
2. $\cos A =$ 4/5	5. $\cos B =$ 3/5
3. $\tan A =$ 3/4	6. $\tan B =$ 4/3

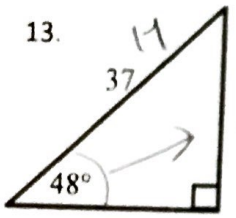


➢ Find each of the following values:

7. $\sin 70° =$ .94	8. $\cos 32° =$ .85	9. $\tan 14° =$ .25
10. $\sin(x) = 0.9744$ $\sin^{-1}(.9744)$ 77°	11. $\cos(x) = 0.9903$ 8°	12. $\tan(x) = 1.8040$ 61

Find each of the following values of x. Round sides and angles to the nearest tenth.

13.

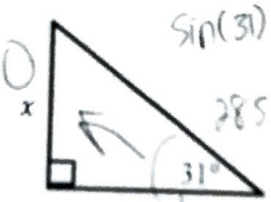


$x =$ 27.5

$\sin(48) = \frac{x}{37}$

$37\sin(48)$

14.

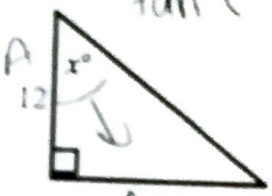


$\sin(31) = \frac{x}{28}$

$28\sin(31) = x$

$x =$ 14.4

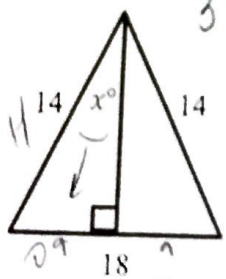
15.



$\tan^{-1}(15/12)$

$x =$ 51.3

16.



$\sin^{-1}(9/14)$

$x =$ 40

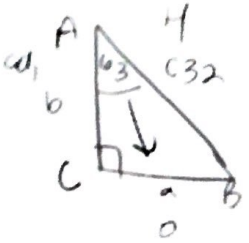
17. Given: ΔABC with $\angle C = 90°$, $\angle A = 63°$ and $c = 32$

$\angle B =$ 27° ; $a =$ 28.5 ; $b =$ 14.5

180 − 90 − 63

$\sin(63) = \frac{a}{32}$ $\cos(63) = \frac{b}{32}$

$32\sin(63) = a$ $32\cos(63) = b$



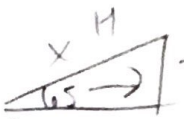
18. A support wire is attached to the top of a 150 *meter* radio tower. The wire is 190 *meters* long. Find the measure of the angle that the wire makes with the ground.

$\sin^{-1}(150/190) = 52.1$

19. A woman standing on a cliff at the edge of the ocean spots a raft. The cliff is 18 *m* above sea level and the angle of depression is 7°. Find the distance from the raft to the base of the cliff.

20. A radio tower 200 *feet* high casts a shadow 75 *feet* long. What is the angle of elevation of the sun?

21. A guy wire is attached to the top of a 75 *foot* tower and meets the ground at a 65° angle. How long is the wire?



$\sin(65) = \frac{75}{x}$

$x = \frac{75}{\sin(65)} = 828$

22. When the suns angle of elevation is 57°, a building casts a shadow 21 *meters* long. How high is the building?

23. A kite is flying at an angle of elevation of about 40°. All 80 *meters* of string have been let out. Ignoring the sag in the string, find the height of the kite.

24. A man stands at the top of a 105 *foot* lighthouse and sees a boat. The angle of depression to sight the boat is 37°, find the distance between the base of the light house and the boat.

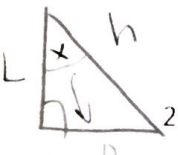
25. An observer in an airplane at a height of 500 *meters* sees a car at an angle of depression of 31°. If the plane is over a barn, how far is the car from the barn?

26. From a point 340 *meters* from the base of the Hoover Dam, the angle of elevation to the top of the dam is 33°. Find the height of the dam to the nearest meter.

27. The Pyramid of the Sun in the ancient Mexican city of Teotihuacan was unearthed from 1904 – 1910. From a point on the ground 300 *feet* from the center of its square base, the angle of elevation to its top would have been 31°. What was the height of the pyramid?

Complete the following statements with always, sometimes, or never.

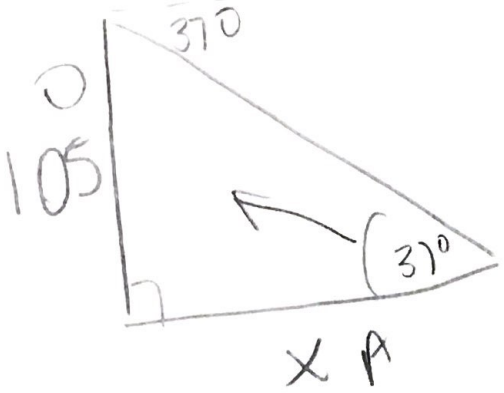
28. The angle of elevation from your eye to the top of a twenty-foot flagpole Never gets smaller as you walk towards the flagpole.



29. Given the measure of an acute angle in a right triangle and the length of one of the triangle's legs, you can Always use trigonometry to find the length of the hypotenuse.

30. The angle of depression from the top of a building to a car traveling towards the building never increases as the car travels closer.

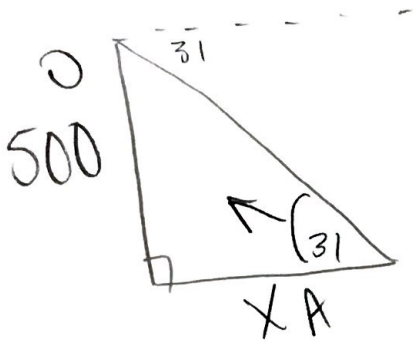
24)



$\tan(37) = \frac{105}{x}$

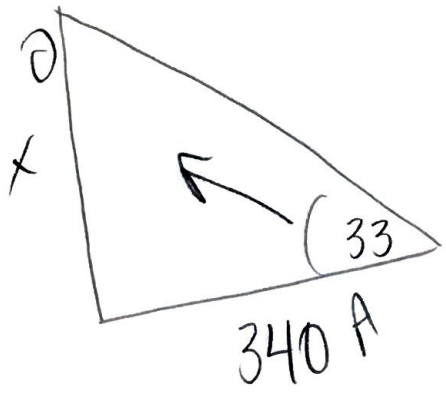
$x = \frac{105}{\tan(37)} = 139.3$

25)



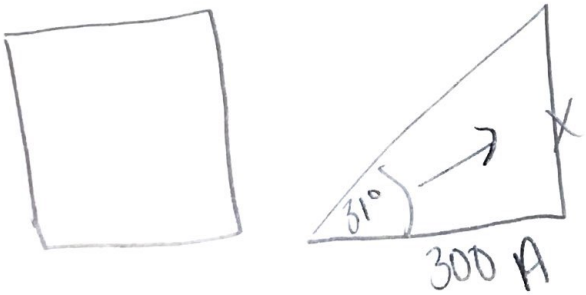
$\tan(31) = \frac{500}{x}$ $x = \frac{500}{\tan(31)} = 832.1$

26)



$\tan(33) = \frac{x}{340}$ $340\tan(33) = 220.8$

27)



$\tan(31) = \frac{x}{300}$

$300\tan(31) = x$ 180.3 ft

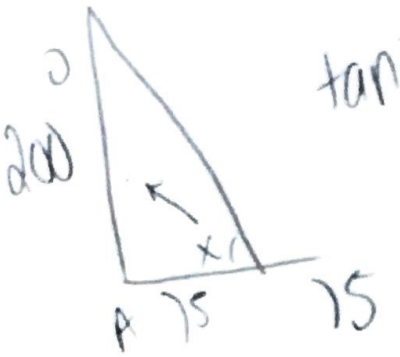
19)

$\tan(7) = \frac{18}{x}$

$x = \frac{18}{\tan(7)}$

146.6

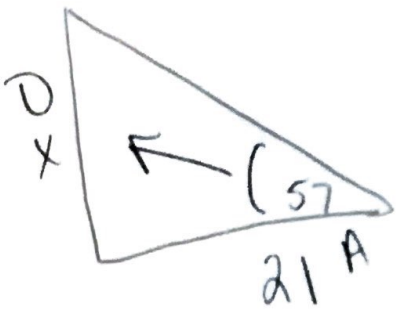
20)



$\tan^{-1}(200/75)$

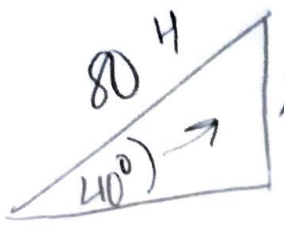
69.4

22)



$\tan(57) = \frac{x}{21}$ $21\tan(57) = 32.3$

23)



$\sin(40) = \frac{x}{80}$ $80\sin(40) = x = 51.4$