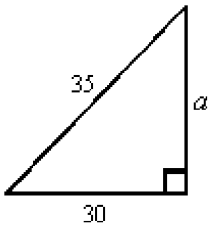
Name: Do not write on this! Class: _____ Date: _____ ID: A

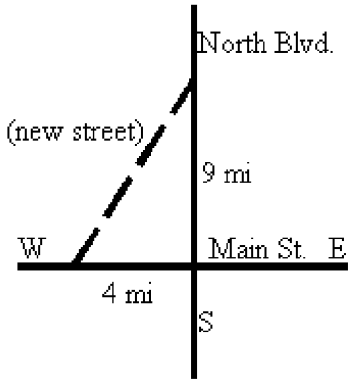
Geom Ch7 Review (Busch/Newgard) You may not use this on the summative. Do not write on this. Show your work on a seperate piece of paper.

1 (4 points) Find the length of the leg of this right triangle. Give an approximation to 3 decimal places.



2 (4 points) How long is a string reaching from the top of a 12-ft pole to a point on the ground that is 11 ft from the base of the pole? Leave answer in Simpliest Radical Form.

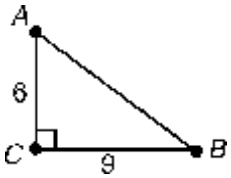
3 (4 points) The city commission wants to construct a new street that connects Main Street and North Boulevard as shown in the diagram below. The construction cost has been estimated at $120 per linear foot. Find the cost for constructing the street. (1 mile = 5280 ft) Round answer to nearest dollar.



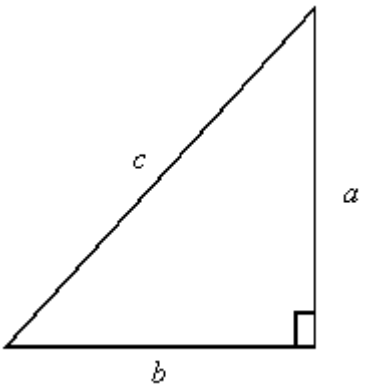
4 (4 points) Find the altitude of an isosceles triangle with base 10 and congruent sides of length 9.

5 (4 points) In a 45°-45°-90° triangle, the ratio of the length of the hypotenuse to the length of a side is _____. Leave answer in Simpliest Radical Form.

6 (4 points) ΔABC is a right triangle. AB = _____. Leave answer in Simpliest Radical Form.



7 (4 points) Find the area of this right triangle if $b = 9$ and $c = \sqrt{130}$.



8 (4 points) Which of the following sets of numbers is a Pythagorean triple?

ⓐ $\sqrt{3}, \sqrt{4}, \sqrt{5}$
ⓑ 12, 16, 20
ⓒ $\frac{1}{3}, \frac{1}{4}, \frac{1}{5}$
ⓓ $3^2, 4^2, 5^2$

9 (4 points) Which set of lengths cannot form a right triangle?

ⓐ 11 mm, 24 mm, 26 mm
ⓑ 20 mm, 48 mm, 52 mm
ⓒ 5 mm, 12 mm, 13 mm
ⓓ 10 mm, 24 mm, 26 mm

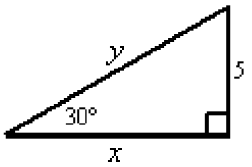
10 (4 points) If the side lengths of a triangle are 7, 6, and 9, the triangle _____.

ⓐ is an obtuse triangle
ⓑ is a right triangle
ⓒ is an acute triangle
ⓓ cannot be formed

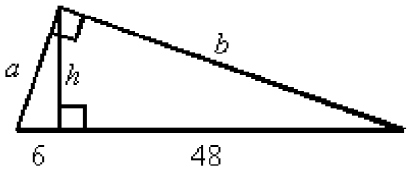
11 (4 points) Choose the set that is the possible side lengths of a right triangle.

ⓐ 1, 1, 2
ⓑ 1, 1, $\sqrt{2}$
ⓒ 3, 4, 7
ⓓ 3, 5, 9

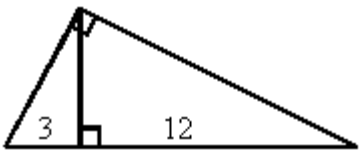
12 (8 points) Find the value of x and y.



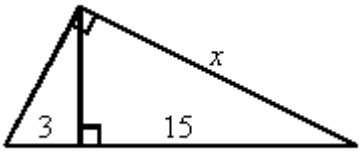
13 (12 points) Find a, b, and h.



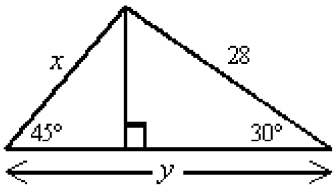
14 (4 points) Find the length of the altitude drawn to the hypotenuse.



15 (4 points) Find the value of x.

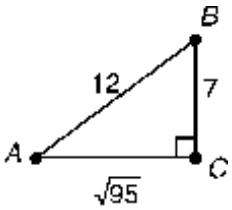


16 (8 points) Find the value of x and y.

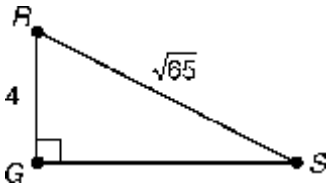


17 (4 points) The length of the diagonal of a square is 22. What is the length of each side?

18 (4 points) The tangent of $\angle B$ is _____. Leave answer in Simpliest Radical Form.



19 (4 points) Find tan S.

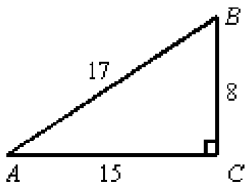


Use a special right triangle to find the tangent of the given angle.

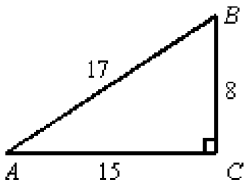
20 (4 points) 30°

21 (4 points) 45°

22 (4 points) Write sin B.

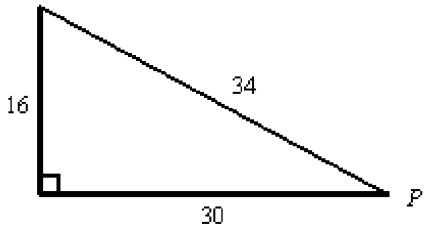


23 (4 points) Find cos B. Leave answer as a fraction in lowest terms.



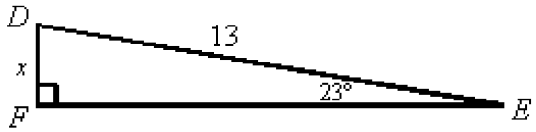
24 (4 points) A slide 4.4 m long makes an angle of 33° with the ground. How high is the top of the slide above the ground? Round answer to 2 decimal places.

25 (12 points) Find sin P, cos P, tan P.

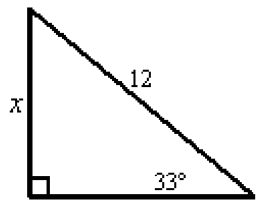


26 (4 points) Use a calculator to find the value of cos 41° to four decimal places.

27 (4 points) Find the value of x, to the nearest whole number. (not drawn to scale)



28 (4 points) What is x to the nearest hundredth? (not drawn to scale)



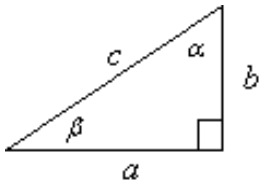
29 (4 points) Assume that $\angle A$ is an acute angle and tan A = 1.230. The measure of $\angle A$ is _____. Round to the nearest tenth.

30 (4 points) Assume that $\angle A$ is an acute angle. If sin A = 0.9540, find tan A to four decimal places. (Use your calculator.)

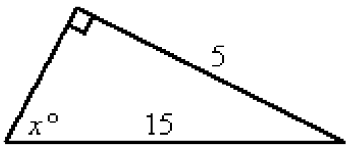
Name: _____ **ID: A**

Solve the right triangle:

31 (12 points) $\alpha = 20^\circ$ and $a = 20$; find β, b, and c



32 (4 points) Solve for x to the nearest degree.



33 (4 points) Which of the following is NOT enough information to solve a right triangle?

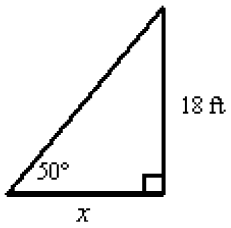
ⓐ Two sides
ⓑ One side length and one trigonometric ratio
ⓒ Two angles
ⓓ One side length and one acute angle measure

Find the measure of an acute angle that satisfies the given equation. Round your answers to the nearest tenth of a degree.

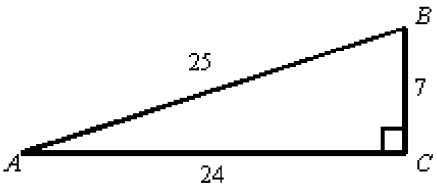
34 (4 points) $\tan Y = \frac{40}{9}$

35 (4 points) $\sin X = \frac{6}{11}$

36 (4 points) A tree 18 feet tall casts a shadow which forms an angle of 50° with the ground. How long is the shadow to the nearest hundredth?



37 (4 points) Find tan A for the right triangle below:



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Answer Section

1. 18.028
2. $\sqrt{265}$ ft
3. \$6,240,236
4. $\sqrt{56}$ or $2\sqrt{14}$
5. $\sqrt{2}:1$
6. $3\sqrt{13}$
7. 31.5
8. B
9. A
10. C
11. B
12. $x = 5\sqrt{3}$, $y = 10$
13. $a = 18$, $b = 36\sqrt{2}$, $h = 12\sqrt{2}$
14. 6
15. $3\sqrt{30}$
16. $x = 14\sqrt{2}$, $y = 14 + 14\sqrt{3}$ or $14(1 + \sqrt{3})$
17. $11\sqrt{2}$
18. $\frac{\sqrt{95}}{7}$
19. $\frac{4}{7}$
20. $\frac{\sqrt{3}}{3}$
21. 1
22. $\frac{15}{17}$
23. $\frac{8}{17}$
24. 2.4 m
25. $\sin P = \frac{8}{17}$, $\cos P = \frac{15}{17}$, $\tan P = \frac{8}{15}$
26. 0.7547
27. 5
28. $x = 6.54$
29. about 50.9°

30 3.1821

$\beta = 70^{\circ}$

31 $b \approx 54.95$

$c \approx 58.48$

32 19

33 C

34 $m\angle Y \approx 77.3°$

35 $m\angle X \approx 33.1°$

36 15.1 ft

37 $\frac{7}{24}$