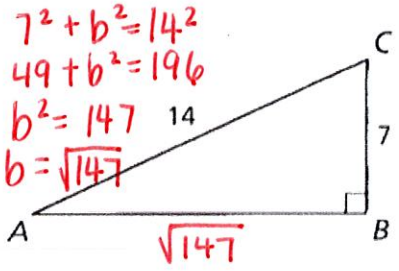
Name _____ Date _____

Day 5 – Trig Ratios: Given Info and Cofunctions

Using the figure at the right, answer the following questions:

$7^2 + b^2 = 14^2$
$49 + b^2 = 196$
$b^2 = 147$
$b = \sqrt{147}$



1. What do you need to find in order to "solve the right triangle"?

AB, using pythagorean theorem

2. What is the length of AB?

$\sqrt{147}$

We can use trigonometric ratios to find the m∠A and m∠C

3. Find the sine, cosine, and tangent of m∠A?

$\sin A = 7/14 = 1/2$
$\cos A = \sqrt{147}/14$
$\tan A = 7/\sqrt{147}$

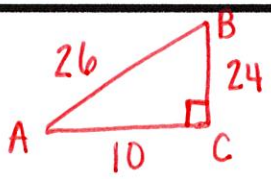
4. Find the sine, cosine, and tangent of ∠C?

$\sin C = \sqrt{147}/14$
$\cos C = 7/14 = 1/2$
$\tan C = \sqrt{147}/7$

How do they compare?

$\sin A = \cos C$, $\cos A = \sin C$, $\tan A = \frac{1}{\tan C}$

Draw ΔABC where ∠ACB = 90°, AC = 10, and CB = 24.



5. What is the length of AB?

$10^2 + 24^2 = c^2$ $c = 26$ **AB = 26**

6. What is cos A? $10/26 = 5/13$

7. What is sin B? $10/26 = 5/13$

Write each trig function in terms of its co-function.

8. sin 64 = $\cos 26^\circ$
9. cos 84 = $\sin 6^\circ$
10. cos 38 = $\sin 52^\circ$
11. sin 24 = $\cos 66^\circ$
12. cos 72 = $\sin 18^\circ$
13. sin 45 = $\cos 45^\circ$
14. sin x = $\cos(90 - x)$
15. cos x = $\sin(90 - x)$

Multiple Choice:

16. In right triangle ABC sin A = 0.8. What is the cos B?

A. 0.8
B. 0.6
C. 1.0
D. 0.5

17. Identify the **two equal** trigonometric ratios from the options given:

A. sin 30
B. cos 30
C. cos 60
D. tan 30

18. Select the **two** possible simplifications of: *sin 31 + cos 59*

A. 2 sin31
B. sin31 x cos 59
C. 2 cos59
D. cos118

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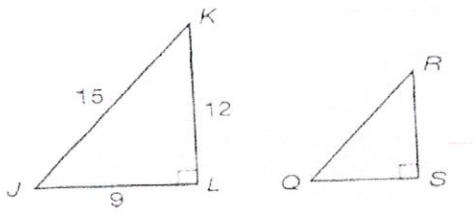
19. Triangle JKL is similar to triangle QRS.



Which of the following must be true?

A. sin J = sin R = 4/5
B. sin J = sin S = 4/5
C. cos K = cos Q = 4/5
D. cos K = cos R = 4/5

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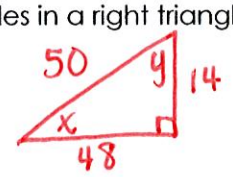
20. Angle X and Angle Y are complementary angles in a right triangle. The value of tan x is 14/48. What is the value of sin Y?



$14^2 + 48^2 = c^2$
$c^2 = 2500$
$c = 50$

A. 14/48
B. 14/50
C. 48/50
D. 50/48

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21. If the sin A = 3/5, the cos (90 – A) = ____?

A. 5/3
B. 3/5
C. 4/3
D. 3/4

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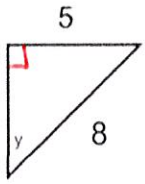
22. In the triangle, sin y = 5/8, which of the following is true?



A. tan y = 5/8
B. cos y = 5/8
C. sin (90 – y) = 5/8
D. cos (90 – y) = 5/8