

**Kerry Ojakian's MTH 28 Class**  
**Class Assignment #20**

1. Suppose a right triangle has legs of length 3 and 4. What is the length of the hypotenuse?

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2. Suppose a right triangle has legs of length 9 and 12. What is the length of the hypotenuse?

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3. Suppose a right triangle has a leg of length 3 and its hypotenuse is length 5. What is the length of the other leg?

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4. Suppose a right triangle has a leg of length 12 and its hypotenuse is length 15. What is the length of the other leg?

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5. Suppose a right triangle has legs of length 2 and 4. What is the length of the hypotenuse? (give your answer as a simplified radical)

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6. Suppose a right triangle has legs of length 1 and 4. What is the length of the hypotenuse? (give your answer as a simplified radical)

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7. Suppose a right triangle has legs of length 3 and 6. What is the length of the hypotenuse? (give your answer as a simplified radical)

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8. Suppose a right triangle has a leg of length 2 and its hypotenuse is length 3. What is the length of the other leg? (give your answer as a simplified radical)

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9. Suppose a right triangle has a leg of length 2 and its hypotenuse is length 8. What is the length of the other leg? (give your answer as a simplified radical)
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10. Consider the right triangle with legs of length 7 and 24, and a hypotenuse of length 25. Find all six trigonometric functions of the angle that includes the side of length 7.

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11. Consider the right triangle with a hypotenuse of length 13 and one leg of length 12. Find all six trigonometric functions of the angle that includes the side of length 12.

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12. Consider the right triangle with legs of length 2 and 4. Find all six trigonometric functions of the angle that includes the side of length 4 (give your answers as simplified radicals).
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13. Consider the right triangle with a leg of length 1 and a hypotenuse of length 9. Find all six trigonometric functions of the angle that includes the side of length 1 (give your answers as simplified radicals).

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14. Suppose  $\sin(\theta) = \frac{7}{241}$ . What is  $\csc(\theta)$ ?

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15. Suppose  $\sec(\theta) = \frac{2025}{13}$ . What is  $\cos(\theta)$ ?

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16. Suppose  $\cos(X) = \frac{3}{5}$ . Evaluate the other five trig functions at  $X$ .

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17. Suppose  $\tan(A) = \frac{4}{3}$ . What is  $\cot(A)$ ? What is  $\sec(A)$ ?

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18. Suppose  $\sin(\theta) = \frac{2}{5}$ . Evaluate the other five trig functions at  $\theta$ .

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19. Suppose  $\tan(\alpha) = 3$ . Evaluate the other five trigonometric functions at  $\alpha$ .

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20. Draw the  $45^\circ - 45^\circ - 90^\circ$  right triangle, and use it to evaluate  $\sin(45^\circ)$ ,  $\cos(45^\circ)$ , and  $\cos(45^\circ)$ .

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21. Draw the  $45^\circ - 45^\circ - 90^\circ$  right triangle, and use it to evaluate  $\sin(45^\circ)$ ,  $\csc(45^\circ)$ ,  $\cos(45^\circ)$ , and  $\sec(45^\circ)$ .

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22. Draw the  $30^\circ - 60^\circ - 90^\circ$  right triangle, and use it to evaluate  $\cos(60^\circ)$ ,  $\sin(30^\circ)$ ,  $\csc(60^\circ)$ , and  $\sec(30^\circ)$ .

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23. Draw the  $30^\circ - 60^\circ - 90^\circ$  right triangle, and use it to evaluate  $\tan(60^\circ)$ ,  $\tan(30^\circ)$ ,  $\cot(60^\circ)$ , and  $\cot(30^\circ)$ .
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