Math on the Fly!

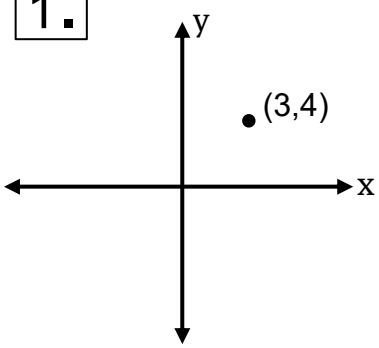
NAME: _____ DATE: _____

Trigonometry on the X–Y Plane

In each diagram, an angle θ has an initial side on the positive x–axis and a terminal side that passes through the given point.

Find the exact values of cosθ, sinθ and tanθ for each angle.

1.



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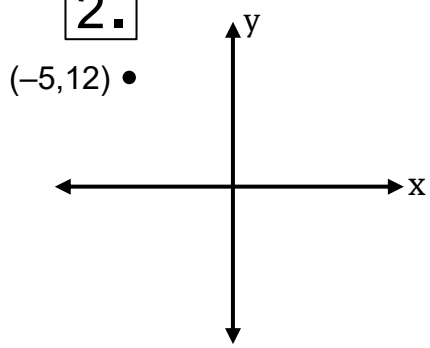

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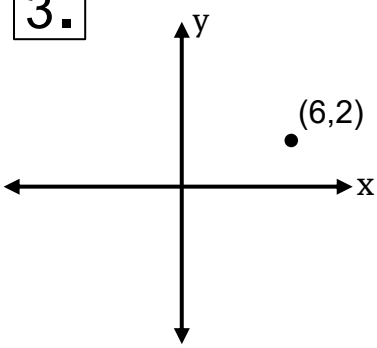

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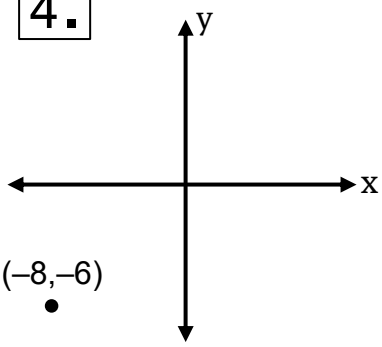

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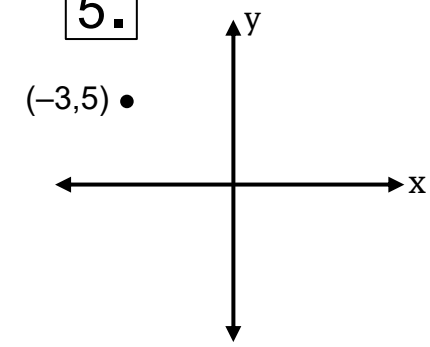

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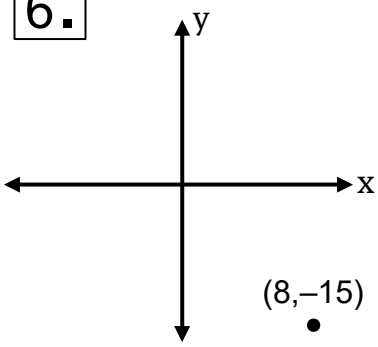

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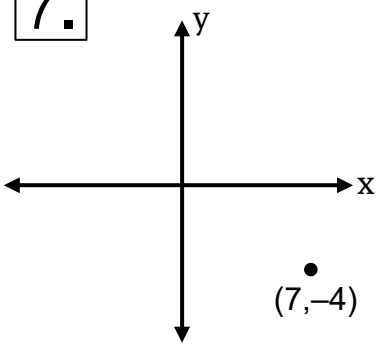

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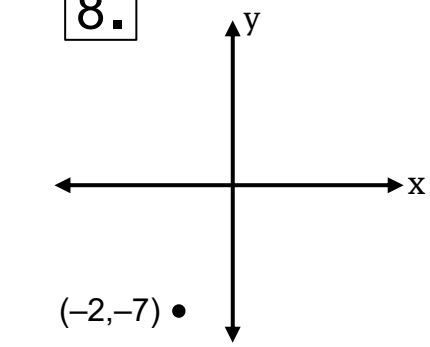

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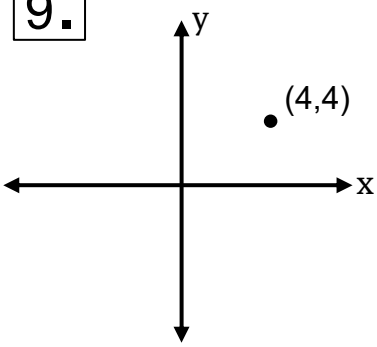

SOLUTIONS

1. $\sin\theta = \frac{4}{5}$ $\cos\theta = \frac{3}{5}$ $\tan\theta = \frac{4}{3}$

2. $\sin\theta = \frac{12}{13}$ $\cos\theta = -\frac{5}{13}$ $\tan\theta = -\frac{12}{5}$

3. $\sin\theta = \frac{2}{\sqrt{40}}$ $\cos\theta = \frac{6}{\sqrt{40}}$ $\tan\theta = \frac{2}{6} = \frac{1}{3}$

4. $\sin\theta = \frac{-6}{10} = -\frac{3}{5}$ $\cos\theta = \frac{-8}{10} = -\frac{4}{5}$ $\tan\theta = \frac{-6}{-8} = \frac{3}{4}$

5. $\sin\theta = \frac{5}{\sqrt{34}}$ $\cos\theta = -\frac{3}{\sqrt{34}}$ $\tan\theta = -\frac{5}{3}$

6. $\sin\theta = -\frac{15}{17}$ $\cos\theta = \frac{8}{17}$ $\tan\theta = -\frac{15}{8}$

7. $\sin\theta = -\frac{4}{\sqrt{65}}$ $\cos\theta = \frac{7}{\sqrt{65}}$ $\tan\theta = -\frac{4}{7}$

8. $\sin\theta = -\frac{7}{\sqrt{53}}$ $\cos\theta = -\frac{2}{\sqrt{53}}$ $\tan\theta = \frac{-7}{-2} = \frac{7}{2}$

9. $\sin\theta = \frac{4}{\sqrt{32}}$ $\cos\theta = \frac{4}{\sqrt{32}}$ $\tan\theta = \frac{4}{4} = 1$