## Unit 6 Lesson 2: Revisiting Right Triangles

### 1 Notice and Wonder: A Right Triangle (Warm up)

#### Student Task Statement

What do you notice? What do you wonder?



### 2 Recalling Right Triangle Trigonometry

#### Images for Launch



#### Student Task Statement

1. Find $cos\left(A\right)$, $sin\left(A\right)$, and $tan\left(A\right)$ for triangle $ABC$.
* 
1. Sketch a triangle $DEF$ where $sin\left(D\right)=cos\left(D\right)$ and $E$ is a right angle. What is the value of $tan\left(D\right)$ for this triangle? Explain how you know.
2. If the coordinates of point $I$ are $\left(9,12\right)$, what is the value of $cos\left(G\right)$, $sin\left(G\right)$, and $tan\left(G\right)$ for triangle $GHI$? Explain or show your reasoning.
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### 3 Shrinking Triangles

#### Student Task Statement

1. What are $cos\left(D\right)$, $sin\left(D\right)$, and $tan\left(D\right)$? Explain how you know.
* 
1. Here is a triangle similar to triangle $DEF$.
* 
	1. What is the scale factor from $△DEF$ to $△D^{′}E^{′}F^{′}$? Explain how you know.
	2. What are $cos\left(D^{′}\right)$, $sin\left(D^{′}\right)$, and $tan\left(D^{′}\right)$?
1. Here is another triangle similar to triangle $DEF$.
* 
	1. Label the triangle $D^{″}E^{″}F^{″}$.
	2. What is the scale factor from triangle $DEF$ to triangle $D^{″}E^{″}F^{″}$?
	3. What are the coordinates of $F^{″}$? Explain how you know.
	4. What are $cos\left(D^{″}\right)$, $sin\left(D^{″}\right)$, and $tan\left(D^{″}\right)$?

#### Images for Activity Synthesis





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