

Name:

Partners:

Math Academy I

Date:

Review 4 Version A

[A] Circle whether each statement is true or false.

T F 1. $\sin A$ is the inverse of $\cos A$.

T F 2. $\sin A$ is the inverse of $\csc A$.

T F 3. $\sin A$ is the inverse of $\sin^{-1} A$.

T F 4. $\sin A$ is the reciprocal of $\cos A$.

T F 5. $\sin A$ is the reciprocal of $\csc A$.

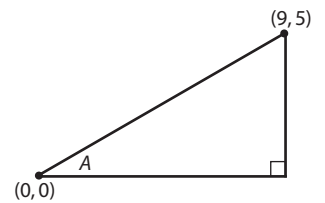
T F 6. $\sin A$ is the reciprocal of $\sin^{-1} A$.

T F 7. 45 is in the range of $f(x) = \sin x$.

T F 8. In the triangle at right, $\tan A = \frac{5}{9}$.

T F 9. In triangle HTU , $\cos T = \frac{h}{u}$ only if U is a right angle.

T F 10. In a 30° right triangle, the hypotenuse is always twice as long as the shorter leg.



[B] Given the triangle below, state a value or expression equivalent to each one stated, if possible.

1. P

2. $\sin P$

3. $\sec P$

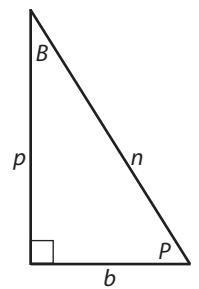
4. $\cos^{-1} P$

5. $\arctan \frac{b}{p}$

6. $\sin P - \cos B$

7. $\sin^{-1} \frac{b}{n} + \cos^{-1} \frac{b}{n}$

8. $\sin P \div \cos P$



[C] For each of the following, write "possible" or explain why it is not possible.

1. $\sin A = 2$

2. $\cot A = 2$

3. $\sec A = 2$

4. $\tan A = 2^\circ$

[D] Make a sketch that is approximately to scale, and then solve. Show all steps, including trig equations and inverse trig functions, using equations only.

1. Find g in a triangle with $B = 90^\circ$, $G = 40^\circ$, and $r = 12$.

2. A ramp consisting of an 8-foot sheet of plywood rises 1 foot. How steep is the ramp?

3. What is the length of the shadow of a 7 meter building when the sun is 28° above the horizon?

[E] Do the following to organize your group's reviews.

1. Make sure your name and your partners' names are at the top of your review the first day.

2. Staple the reviews in order, all facing the same way. Put the staple in the very top left corner if everyone is finished or if the review is due; otherwise put the staple in the top right corner.

Name:

Math Academy I

Date:

Review 4 Version B

[A] Circle whether each statement is true or false.

T F 1. $\sin A$ is the inverse of $\cos A$.

T F 2. $\sin A$ is the inverse of $\csc A$.

T F 3. $\sin A$ is the inverse of $\sin^{-1} A$.

T F 4. $\sin A$ is the reciprocal of $\cos A$.

T F 5. $\sin A$ is the reciprocal of $\csc A$.

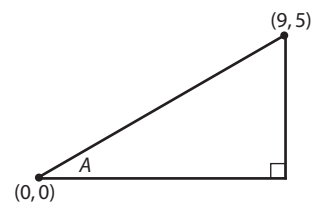
T F 6. $\sin A$ is the reciprocal of $\sin^{-1} A$.

T F 7. 45 is in the range of $f(x) = \sin x$.

T F 8. In the triangle at right, $\tan A = \frac{5}{9}$.

T F 9. In triangle HTU , $\cos T = \frac{h}{u}$ only if U is a right angle.

T F 10. In a 30° right triangle, the hypotenuse is always twice as long as the shorter leg.



[B] Given the triangle below, state a value or expression equivalent to each one stated, if possible.

1. P

2. $\sin P$

3. $\sec P$

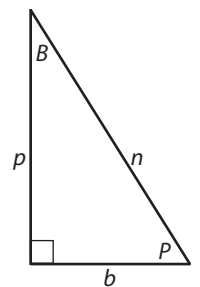
4. $\cos^{-1} P$

5. $\arctan \frac{b}{p}$

6. $\sin P - \cos B$

7. $\sin^{-1} \frac{b}{n} + \cos^{-1} \frac{b}{n}$

8. $\sin P \div \cos P$



[C] For each of the following, write "possible" or explain why it is not possible.

1. $\cos A = 2$

2. $\tan A = 2$

3. $\csc A = 2$

4. $\cot A = 2^\circ$

[D] Make a sketch that is approximately to scale, and then solve. Show all steps, including trig equations and inverse trig functions, using equations only.

1. Find g in a triangle with $B = 90^\circ$, $G = 10^\circ$, and $r = 75$.

2. A ramp consisting of an 8-foot sheet of plywood rises 1.2 feet. How steep is the ramp?

3. What is the length of the shadow of a 7.2 meter building when the sun is 18° above the horizon?

[E] Bonus. Use the definitions to simplify.

1. $\frac{\sin A}{\cos A}$

2. $\sin^2 A + \cos^2 A$

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Review 4 Version C

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T F 3. $\sin A$ is the inverse of $\sin^{-1} A$.

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T F 5. $\sin A$ is the reciprocal of $\csc A$.

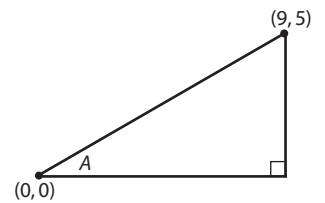
T F 6. $\sin A$ is the reciprocal of $\sin^{-1} A$.

T F 7. 45 is in the range of $f(x) = \sin x$.

T F 8. In the triangle at right, $\tan A = \frac{5}{9}$.

T F 9. In triangle HTU , $\cos T = \frac{h}{u}$ only if U is a right angle.

T F 10. In a 30° right triangle, the hypotenuse is always twice as long as the shorter leg.



[B] Given the triangle below, state a value or expression equivalent to each one stated, if possible.

1. P

2. $\sin P$

3. $\sec P$

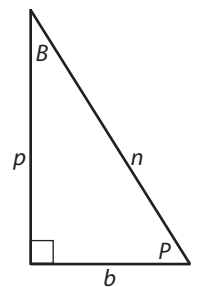
4. $\cos^{-1} P$

5. $\arctan \frac{b}{p}$

6. $\sin P - \cos B$

7. $\sin^{-1} \frac{b}{n} + \cos^{-1} \frac{b}{n}$

8. $\sin P \div \cos P$



[C] For each of the following, write "possible" or explain why it is not possible.

1. $\sin A = 0.4$

2. $\cot A = 0.4$

3. $\sec A = 0.4$

4. $\tan A = 0.4^\circ$

[D] Make a sketch that is approximately to scale, and then solve. Show all steps, including trig equations and inverse trig functions, using equations only.

1. Find b in a triangle with $B = 90^\circ$, $G = 40^\circ$, and $r = 12$.

2. A ramp consisting of an 8-foot sheet of plywood covers a horizontal distance of 7 feet. How steep is the ramp?

3. What is the length of the shadow of a 5.2 meter building when the sun is 8.1° above the horizon?

[E] Bonus. Use the definitions to simplify.

1. $\frac{\cos A}{\sin A}$

2. $\sec^2 A - \tan^2 A$

Name:

Math Academy I

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Review 4 Version D

[A] Circle whether each statement is true or false.

T F 1. $\sin A$ is the inverse of $\cos A$.

T F 2. $\sin A$ is the inverse of $\csc A$.

T F 3. $\sin A$ is the inverse of $\sin^{-1} A$.

T F 4. $\sin A$ is the reciprocal of $\cos A$.

T F 5. $\sin A$ is the reciprocal of $\csc A$.

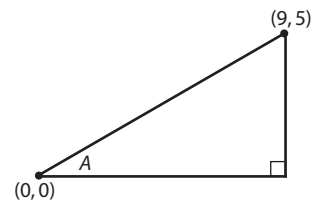
T F 6. $\sin A$ is the reciprocal of $\sin^{-1} A$.

T F 7. 45 is in the range of $f(x) = \sin x$.

T F 8. In the triangle at right, $\tan A = \frac{5}{9}$.

T F 9. In triangle HTU , $\cos T = \frac{h}{u}$ only if U is a right angle.

T F 10. In a 30° right triangle, the hypotenuse is always twice as long as the shorter leg.



[B] Given the triangle below, state a value or expression equivalent to each one stated, if possible.

1. P

2. $\sin P$

3. $\sec P$

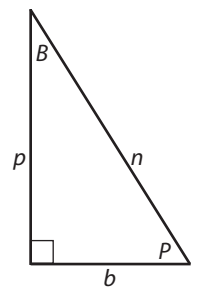
4. $\cos^{-1} P$

5. $\arctan \frac{b}{p}$

6. $\sin P - \cos B$

7. $\sin^{-1} \frac{b}{n} + \cos^{-1} \frac{b}{n}$

8. $\sin P \div \cos P$



[C] For each of the following, write "possible" or explain why it is not possible.

1. $\cos A = 0.4$

2. $\tan A = 0.4$

3. $\csc A = 0.4$

4. $\cot A = 0.4^\circ$

[D] Make a sketch that is approximately to scale, and then solve. Show all steps, including trig equations and inverse trig functions, using equations only.

1. Find b in a triangle with $B = 90^\circ$, $G = 10^\circ$, and $r = 75$.

2. A ramp rises 11 cm for every meter of horizontal distance traveled. How steep is the ramp?

3. What is the length of the shadow of a 15.5 meter building when the sun is 1.6° below high noon?

[E] Bonus. Use the definitions to simplify.

1. $\frac{1}{1 + \sin x} + \frac{1}{1 + \csc x}$

2. $\csc^2 A - 1$