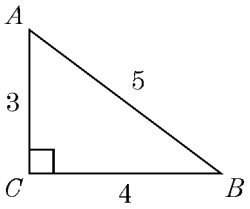
Math 9 Enriched

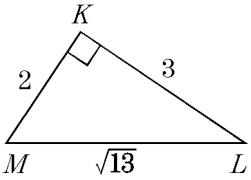
Trigonometry Review

Name _____ Date _____

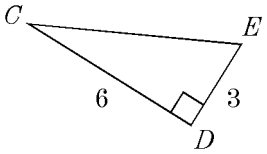
1. Find $\sin\angle A$.



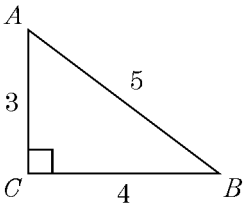
2. Find $\sin\angle M$.



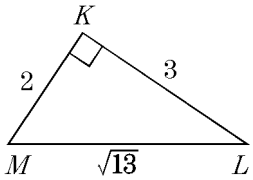
3. Find $\sin\angle E$.



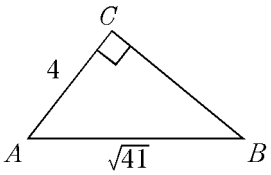
4. $\cos\angle$ ____ $= \frac{3}{5}$



5. $\sin\angle$ ____ $= \frac{3\sqrt{13}}{13}$



6. $\sin\angle$ ____ $= \frac{5\sqrt{41}}{41}$



7. In $\triangle ABC$, $m\angle C = 90°$, $AC = 3$, $BC = 4$, and $AB = 5$. Find $\sin\angle A$.

8. In $\triangle DEF$, $\angle E$ is right, $DE = 8$, $FE = 15$, and $DF = 17$. Find $\cos\angle F$.

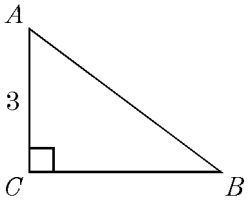
9. In $\triangle GHI$, $\angle H$ is right, $GH = 7$, and $IH = 24$. Find $\tan\angle I$.

10. In $\triangle PQR$, $\angle Q$ is right, $PQ = 1$, and $QR = 3$. Find $\tan\angle R$.

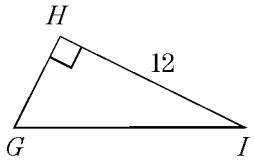
11. If $\cos \angle P = 0.3228$, find $m\angle P$ to the nearest 10 minutes.

12. If $\cos \angle V = 0.3987$, find $m\angle V$ to the nearest tenth of a degree.

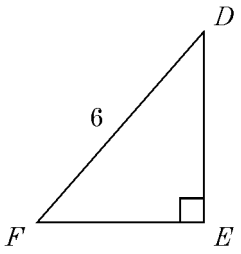
13. If $\sin \angle B = \frac{2}{3}$, find AB.



14. If $\sin \angle G = \frac{12}{13}$, find GI.

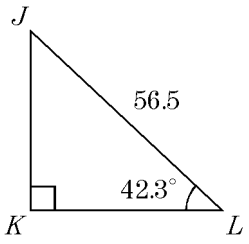


15. If $\sin \angle F = \frac{5}{6}$, find FE.

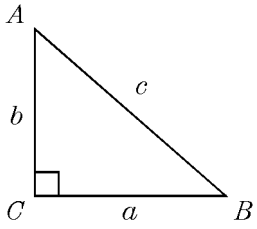


16. If $\cos \angle F = \frac{1}{6}$, find DE.

17. Find JK to the nearest tenth.



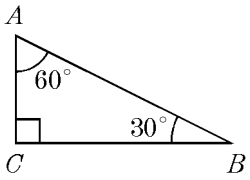
18. If $a = 2$ and $b = 5$, find $m\angle A$ to the nearest ten minutes.



19. If $a = 3$ and $c = 8$, find $m\angle B$ to the nearest tenth of a degree.

20. If $b = 8$ and $c = 15$, find $m\angle B$ to the nearest ten minutes.

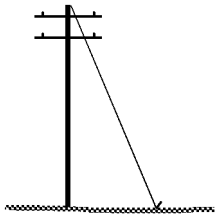
21. If $AC = 12$, find BC.



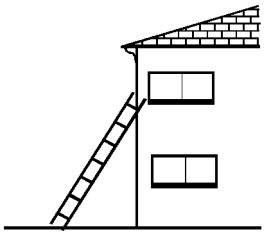
22. If $BC = 9$, find AB.

23. If $AB = 6$, find AC.

24. A 82 foot 8 inch long wire is attached to the top of a telephone pole 41 feet 4 inches tall. What is the exact measure of the angle the wire makes with the ground?

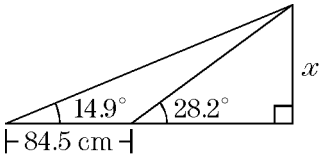


25. A 5 foot long ladder leans against a house forming a 30° angle with the house. Exactly how far is the base of the ladder from the house?



26. An airplane is flying at a constant altitude of 20,000 feet directly towards an observer stationed on the ground. At 2:00 the observed angle of elevation of the plane is 27°. One minute later, the angle of elevation is 51°. What is the plane's approximate ground speed in miles per hour?

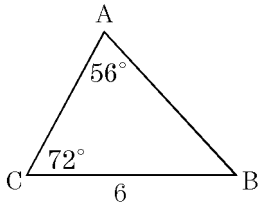
27. Find the value of x as indicated in the diagram.



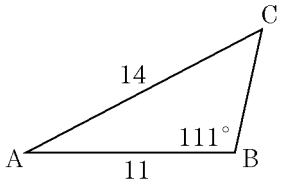
28. The side of a regular pentagon is 24 centimeters. Approximate the radius of the circumscribed circle.

29. A ship leaves its home port and sails on a bearing of N 29° 20′ E. A second ship leaves the same port at the same time and sails on a bearing of S 60° 40′ E. If the first ship sails at 32.0 miles per hour and the second ship sails at 29.0 miles per hour, find the approximate distance between the two ships after $3\frac{1}{2}$ hours.

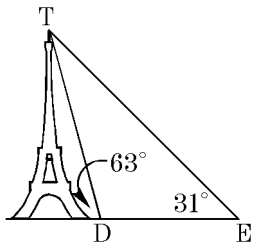
30. Calculate the length of AB in $\triangle$CAB to 1 decimal place.



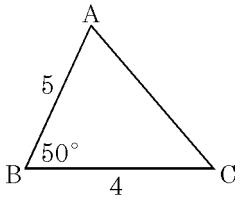
31. Calculate the measure of $\angle$C in $\triangle$BCA to the nearest tenth of a degree.



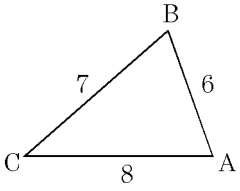
32. Daniel is at point D and Edward is at point E. Daniel looks up at an angle of 63° from DE to see the top of the Eiffel Tower at T, and Edward looks up at it with an angle of 31°. The length of DE is 346.4 m. How high is the Eiffel Tower to the nearest tenth of a metre?



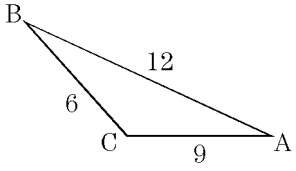
33. Calculate the length of AC in $\triangle BAC$ to 1 decimal place.



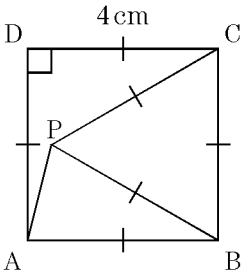
34. Calculate the measure of $\angle A$ in $\triangle CBA$ to the nearest tenth of a degree.



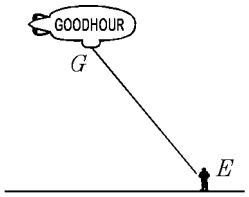
35. Calculate the measure of $\angle A$ in $\triangle CBA$ to the nearest tenth of a degree.



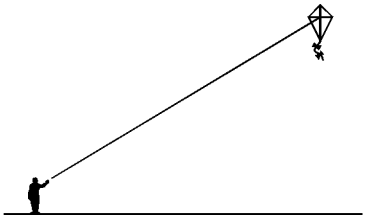
36. ABCD is a square with side length 4 cm and $\triangle PBC$ is equilateral as shown. Determine the length of AP to the nearest tenth of a centimetre.



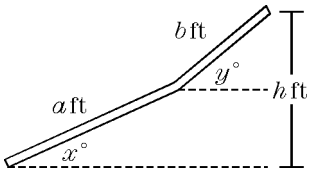
37. The Goodhour Blimp was flying overhead the other day at a height of 1000 meters. Egbert, standing at point E, was 1400 meters from someone riding in the blimp, at point G. What was the angle of elevation observed by Egbert? Answer to the nearest tenth of a degree.



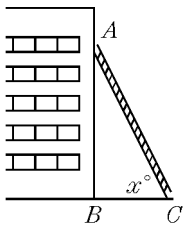
38. When I went kite flying the other day, I managed to let out an entire roll of string (400 feet). If the string, when pulled tight, formed a 40° angle with the ground, about how high was the kite?



39. A water slide is made up of two parts with different slopes as shown. The top part is 4 ft long ($b = 4$) and sloped at a 40° angle. The bottom part is 6 ft long ($a = 6$) and sloped at a 25° angle. How high is the top of the slide (h)?



40. A ladder reaches a window 40 ft (AB = 40) above the ground and makes a 55° angle ($\angle ACB = 55$) with the ground.



a) What is the length of the ladder to the nearest tenth of a foot?

b) If the ladder were moved so that it reaches 46 ft above the ground, what is the new angle with the ground to the nearest tenth of a degree?

c) To the nearest tenth of a foot, how far must the bottom of the ladder be moved in to form the new angle?

Math 9 Enriched Trigonometry Review Mr. Young 19/03/2010

Answer List

1.	$\frac{4}{5}$	2.	$\frac{3\sqrt{13}}{13}$	3.	$\frac{2\sqrt{5}}{5}$
4.	A	5.	M	6.	A
7.	$\frac{4}{5}$	8.	$\frac{15}{17}$	9.	$\frac{7}{24}$
10.	$\frac{1}{3}$	11.	$71^\circ 10'$	12.	66.5°
13.	$\frac{9}{2} = 4.5$	14.	13	15.	$\sqrt{11}$
16.	$\sqrt{35}$	17.	38.0	18.	$21^\circ 50'$
19.	68.0°	20.	$32^\circ 10'$	21.	$12\sqrt{3}$
22.	$6\sqrt{3}$	23.	3	24.	30°
25.	2.5 ft	26.	262 mph	27.	44.6 cm
28.	20.4 cm	29.	151 mi	30.	6.9
31.	47.2°	32.	300.0 m	33.	3.9
34.	57.9°	35.	29.0°	36.	2.1 cm
37.		38.		39.	
40.					

Catalog List

1.	TRI MA 1	2.	TRI MA 37	3.	TRI MA 61
4.	TRI MD 2	5.	TRI MD 25	6.	TRI MD 49
7.	TRI MB 1	8.	TRI MB 17	9.	TRI MB 30
10.	TRI MB 54	11.	TRI ME 30	12.	TRI ME 42
13.	TRI MF 5	14.	TRI MF 25	15.	TRI MF 41
16.	TRI MF 48	17.	TRI MG 10	18.	TRI MG 34
19.	TRI MG 46	20.	TRI MG 54	21.	TRI MI 5
22.	TRI MI 20	23.	TRI MI 35	24.	TRI ML 6
25.	TRI ML 33	26.	TRI ML 45	27.	TRI ML 59
28.	TRI ML 75	29.	TRI ML 84	30.	AW1 HG 1
31.	AW1 HG 8	32.	AW1 HG 11	33.	AW1 HH 1
34.	AW1 HH 6	35.	AW1 HH 8	36.	AW1 HH 21
37.		38.		39.	
40.					