

SBM 2 Review C

Use the sum and difference prop

1) $\frac{\tan 3x - \tan 2x}{1 + \tan 3x \tan 2x}$

$$\tan x$$

2) $\sin -5\theta \cos -\theta - \cos -5\theta \sin -\theta$

$$\sin -4\theta$$

3) $\frac{\tan 5\theta + \tan 6\theta}{1 - \tan 5\theta \tan 6\theta}$

$$\tan 11\theta$$

4) $\cos 5\theta \cos 5\theta - \sin 5\theta \sin 5\theta$

$$\cos 10\theta$$

Use the sum and difference properties to find the exact value of each.

5) $\tan -\frac{\pi}{12}$

$$-2 + \sqrt{3}$$

6) $\sin \frac{19\pi}{12}$

$$\frac{-\sqrt{6} - \sqrt{2}}{4}$$

$$7) \cos \frac{17\pi}{12}$$

$$\frac{\sqrt{2} - \sqrt{6}}{4}$$



Solve each triangle. Round your answers to the nearest tenth.

8) $m\angle A = 52^\circ$, $c = 25$ mi, $a = 21$ mi

$\angle A = 52^\circ$	$\angle A = 52^\circ$
$\angle B = 58.3^\circ$	$\angle B = 17.7^\circ$
$\angle C = 69.7^\circ$ or	$\angle C = 110.3^\circ$
$a = 21$	$a = 21$
$b = 22.7$	$b = 9.1$
$c = 25$	$c = 25$

9) $m\angle C = 65^\circ$, $b = 15$ yd, $c = 9$ yd

Not a Δ

10) $b = 9$ m, $m\angle C = 138^\circ$, $a = 8$ m

$$\begin{aligned} \angle A &= 19.7^\circ \\ \angle B &= 22.3^\circ \\ \angle C &= 138^\circ \\ a &= 8 \\ b &= 9 \\ c &= 15.9 \end{aligned}$$

11) $b = 10.4$ in, $a = 14.2$ in, $c = 19.4$ in

$$\begin{aligned} \angle A &= 45.5^\circ \\ \angle B &= 31.5^\circ \\ \angle C &= 103^\circ \\ a &= 14.2 \\ b &= 10.4 \\ c &= 19.4 \end{aligned}$$

Find the area of each triangle to the nearest tenth.

12) In $\triangle BCA$, $c = 8$ yd, $a = 16$ yd, $m\angle B = 58^\circ$

$$54.3 \text{ yd}^2$$

13) In $\triangle ABC$, $c = 10$ yd, $a = 10$ yd, $b = 11.2$ yd

$$46.4 \text{ yd}^2$$

14) In $\triangle ABC$, $b = 14$ km, $c = 15.9$ km, $a = 6$ km

$$41.7 \text{ km}^2$$



15) In $\triangle PQR$, $p = 4$ in, $m\angle P = 139^\circ$, $m\angle Q = 17^\circ$

$$1.5 \text{ in}^2$$

Use identities to find the value of each expression.

16) If $\sin \theta = 0.68$, find $\cos\left(\theta - \frac{\pi}{2}\right)$.

$$-0.68$$

17) If $\sin(-\theta) = 0.71$, find $\cos\left(\frac{\pi}{2} - \theta\right)$.

$$-0.71$$

18) If $\cot\left(\theta - \frac{\pi}{2}\right) = -0.81$, find $\tan \theta$.

$$0.81$$

19) If $\tan\left(\frac{\pi}{2} - \theta\right) = -0.23$, find $\cot(-\theta)$.

$$0.23$$