

1. $\boxed{2\sqrt{74} = x}$

2. $\boxed{x = 2\sqrt{7}}$

3. $\boxed{y = 4\sqrt{5}}$

4. $\boxed{x = 21}$

$\boxed{y = 10\sqrt{3}}$

5. $\boxed{x = 20\sqrt{3}}$

$\boxed{x = 14\sqrt{2}}$

6. $\boxed{y = 14\sqrt{2}}$

7.

$\sin \theta = \frac{12}{13}$	$\csc \theta = \frac{13}{12}$
$\cos \theta = \frac{5}{13}$	$\sec \theta = \frac{13}{5}$
$\tan \theta = \frac{12}{5}$	$\cot \theta = \frac{5}{12}$

8.

$\sin \theta = \frac{4\sqrt{7}}{16} = \frac{\sqrt{7}}{4}$	$\csc \theta = \frac{16}{4\sqrt{7}} = \frac{4\sqrt{7}}{7}$
$\cos \theta = \frac{12}{16} = \frac{3}{4}$	$\sec \theta = \frac{16}{12} = \frac{4}{3}$
$\tan \theta = \frac{4\sqrt{7}}{12} = \frac{\sqrt{7}}{3}$	$\cot \theta = \frac{12}{4\sqrt{7}} = \frac{3\sqrt{7}}{7}$

9.

$\sin \theta = \frac{4}{\sqrt{41}} = \frac{4\sqrt{41}}{41}$	$\csc \theta = \frac{\sqrt{41}}{4}$
$\cos \theta = \frac{5}{\sqrt{41}} = \frac{5\sqrt{41}}{41}$	$\sec \theta = \frac{\sqrt{41}}{5}$
$\tan \theta = \frac{4}{5}$	$\cot \theta = \frac{5}{4}$

$\sin \theta = \frac{2}{\sqrt{7}} = \frac{2\sqrt{7}}{7}$	$\csc \theta = \frac{\sqrt{7}}{2}$
$\cos \theta = \frac{\sqrt{3}}{\sqrt{7}} = \frac{\sqrt{21}}{7}$	$\sec \theta = \frac{\sqrt{7}}{\sqrt{3}} = \frac{\sqrt{21}}{3}$
$\tan \theta = \frac{2}{\sqrt{3}} = \frac{2\sqrt{3}}{3}$	$\cot \theta = \frac{\sqrt{3}}{2}$

10.

11. $\frac{\sqrt{2}}{2}$

12. $\sqrt{3}$

13. $\frac{\sqrt{3}}{2}$

14. $\frac{\sqrt{3}}{3}$

15. $\sqrt{2}$

16. $\frac{2\sqrt{3}}{3}$