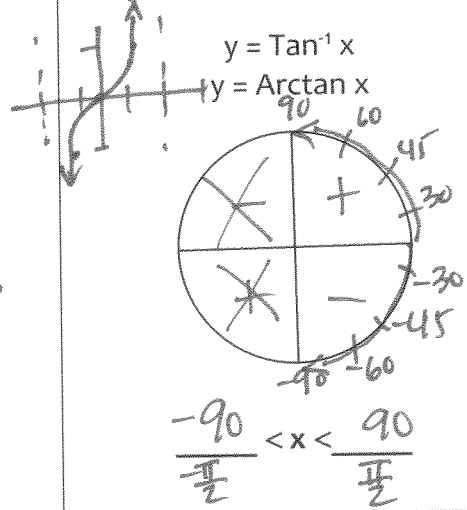
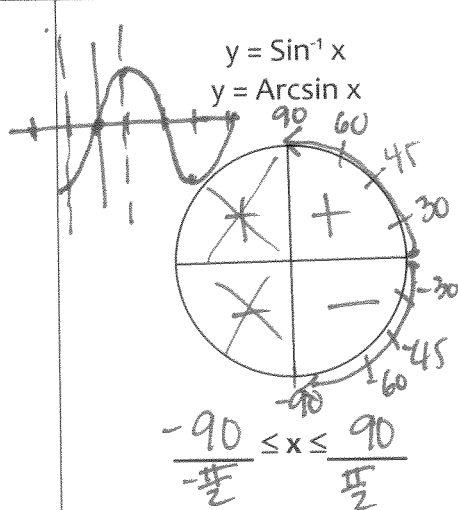
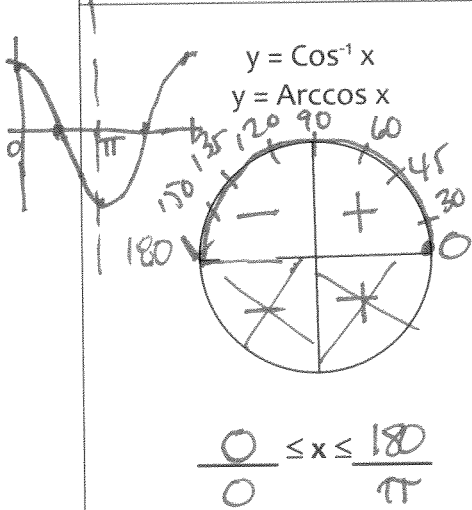


Inverse Trigonometric Functions

MORE PRACTICE

Name Master G
 Date _____ Block

Let's review the restrictions on the domain of each inverse function.



Find each value without using a calculator. Show your work!

1. $\cos^{-1}\left(-\frac{1}{2}\right)$

120° or $\frac{2\pi}{3}$

2. $\sin\left(\sin^{-1}\frac{1}{2}\right)$

$\frac{1}{2}$

3. $\sin^{-1}\left(\cos\frac{\pi}{2}\right)$

$\sin^{-1}(0)$

0°

4. $\tan^{-1}(-1)$

-45° or $-\frac{\pi}{4}$

5. $\sin\frac{\pi}{6}$

$\frac{1}{2}$

6. $\sin^{-1} 1$

90° or $\frac{\pi}{2}$

7. $\tan\left(\cos^{-1}\frac{6}{7}\right)$

$\frac{49}{-36}$
 $\frac{13}{13}$

$\tan\theta = \frac{\sqrt{13}}{6}$

8. $\cot\left(\sin^{-1}\frac{5}{6}\right)$

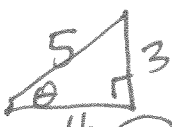


$-\frac{36}{-25}$
 $\frac{11}{11}$

$\cot\theta = \frac{\sqrt{11}}{5}$

9. $\cot\left(\sin^{-1}\frac{7}{9}\right)$

$-\frac{81}{-49}$
 $\frac{32}{32} = \sqrt{16} \cdot 2$

$\cot\theta = \frac{4\sqrt{2}}{7}$

<p>10. $\sin(\text{Arctan } \frac{\sqrt{3}}{3})$</p> <p>$\sin(30^\circ \text{ or } \frac{\pi}{6})$</p> <p>$\frac{1}{2}$</p>	<p>11. $\cos(\text{Arcsin } \frac{3}{5})$</p>  <p>$\cos \theta = \frac{4}{5}$</p>	<p>12. $\tan(\text{Arctan } 3)$</p> <p>1XF!</p> <p>3</p>
<p>13. $\sin^{-1}(\tan \frac{\pi}{4})$</p> <p>$\sin^{-1}(1)$</p> <p>$90^\circ \text{ or } \frac{\pi}{2}$</p>	<p>14. $\text{Arctan } \sqrt{3}$</p> <p>$60^\circ \text{ or } \frac{\pi}{3}$</p>	<p>15. $\text{Arccos } \frac{\sqrt{3}}{2}$</p> <p>$30^\circ \text{ or } \frac{\pi}{6}$</p>
<p>16. $\cos(\text{Tan}^{-1} \sqrt{3})$</p> <p>$\cos(60^\circ \text{ or } \frac{\pi}{3})$</p> <p>$\frac{1}{2}$</p>	<p>17. $\cos(\text{Arcsin } -\frac{1}{2})$</p> <p>$\cos(-30^\circ \text{ or } -\frac{\pi}{6})$</p> <p>$\frac{\sqrt{3}}{2}$</p>	<p>18. $\cos(\text{Tan}^{-1} 1)$</p> <p>$\cos(45^\circ \text{ or } \frac{\pi}{4})$</p> <p>$\frac{\sqrt{2}}{2}$</p>
<p>19. $\cos(\text{Cos}^{-1}(-\frac{\sqrt{2}}{2}) - \frac{\pi}{2})$</p> <p>$\cos(135^\circ - 90^\circ)$</p> <p>$\cos(45^\circ) = \frac{\sqrt{2}}{2}$</p>	<p>20. $\sin(2\text{Sin}^{-1} \frac{1}{2})$</p> <p>$\sin(2 \cdot 30^\circ)$</p> <p>$\sin(60^\circ)$</p> <p>$\frac{\sqrt{3}}{2}$</p>	<p>21. $\tan(\text{Cos}^{-1}(-\frac{3}{5}))$</p>  <p>$\tan \theta = -\frac{4}{3}$</p>
<p>22. $\sin(\text{Sin}^{-1} \frac{\sqrt{3}}{2})$ 1XF!</p> <p>$\frac{\sqrt{3}}{2}$</p>	<p>23. $\sin(\text{Arctan } (-\sqrt{3}))$</p> <p>$\sin(-60^\circ \text{ or } -\frac{\pi}{3})$</p> <p>$-\frac{\sqrt{3}}{2}$</p>	<p>24. $\text{Cos}^{-1}(\sin \frac{3\pi}{2})$</p> <p>$\text{Cos}^{-1}(-1)$</p> <p>$180^\circ \text{ or } \pi$</p>
<p>25. $\text{Tan}^{-1}(\cos \frac{3\pi}{2})$</p> <p>$\text{Tan}^{-1}(0)$</p> <p>$0^\circ$</p>	<p>26. $\text{Sin}^{-1}(\cos \frac{\pi}{6})$</p> <p>$\text{Sin}^{-1}(\frac{\sqrt{3}}{2})$</p> <p>$60^\circ \text{ or } \frac{\pi}{3}$</p>	<p>27. $\tan(\text{Sin}^{-1} \frac{6}{11})$</p>  <p>$\frac{121}{-36}$ $\frac{85}{85}$</p> <p>$\tan \theta = \frac{6}{\sqrt{85}} = \frac{6\sqrt{85}}{85}$</p>