<u>Assignments for the week of Sept. 6</u>:
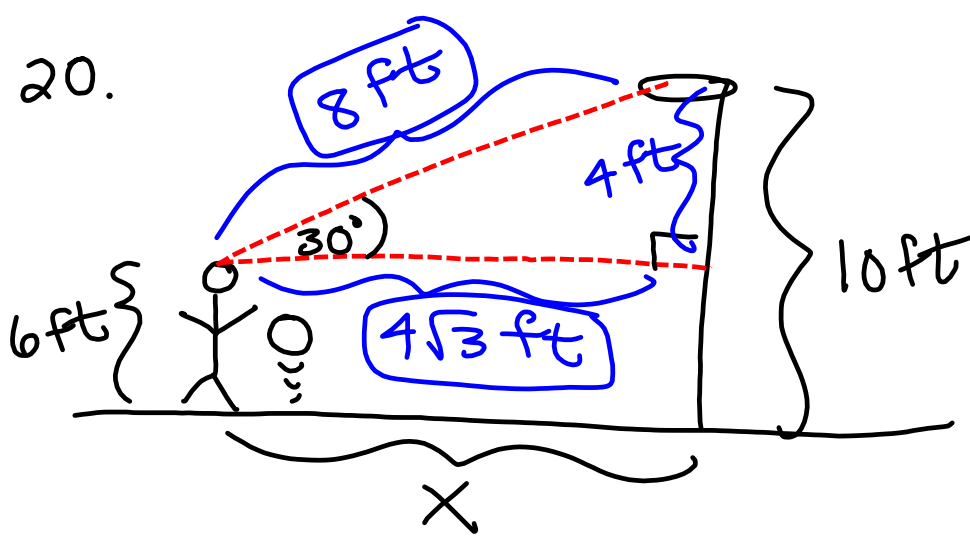- 45 minutes of Khan Academy
- Read 5.5-5.7 and "Trig Guide to Graphing" on brewermath.com
- Due Fri. 9 Sept:
  5.5: #55-60 all; 77-84 all
  5.6 #1-47 odd; 49-54 all; 63-70 all
  5.7 #1-50 all; #53-64 all; 87-92 all

1. III

2. II

3. $30°$

4. $45°$

5. $300°$

6. $210°$

7. $\dfrac{7\pi}{4}$

8. $\dfrac{5\pi}{6}$

9. 0

10. $\dfrac{-2}{\sqrt{3}}$

11. undefined

12. $\dfrac{\sqrt{3}}{2}$

13. 1

14. $\dfrac{-1}{\sqrt{2}}$

15. $-4/5$

16. $3/4$

17. $\dfrac{-13}{12}$

18. $\dfrac{-5}{12}$

19. $\omega = \dfrac{45\,\text{rev}}{\text{min}}$, $V = ?\ \text{m/s}$; $r = 6\,\text{cm}$

$$V = r\omega = 6\,\text{cm} \cdot \dfrac{\overset{9}{\cancel{45}}\,\text{rev}}{\cancel{\text{min}}} \cdot \dfrac{1\,\text{m}}{100\,\text{cm}} \cdot \dfrac{1\,\cancel{\text{min}}}{\underset{\cancel{10}s}{\cancel{60}s}} \cdot \dfrac{2\pi}{1\,\cancel{\text{rev}}}$$

$$= \boxed{\dfrac{9\pi}{100}\ \text{m/s}}$$

20.

21. G
22. E
23. F
24. A
25. B

$y = f(x)$

Goal:

$$y = a f(bx + c) + d$$

$$y = f(x) + g(x)$$

$$y = a f(bx)$$

multiplication always results in a
   stretch of the graph.
constants applied outside the function
   affect it vertically as we expect;
   inside - horizontally, opposite
   of what we would expect

$$\text{amplitude} = \frac{\text{max value} - \text{min value}}{2}$$
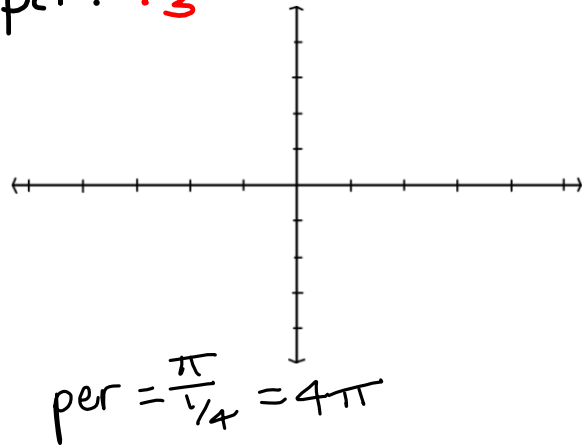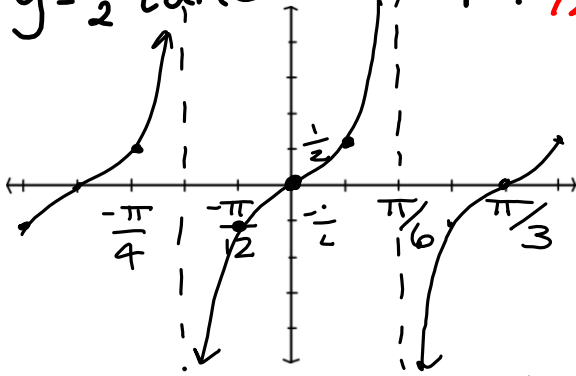
for $y = a \sin bx$

$\underline{\text{amplitude}} = |a|$
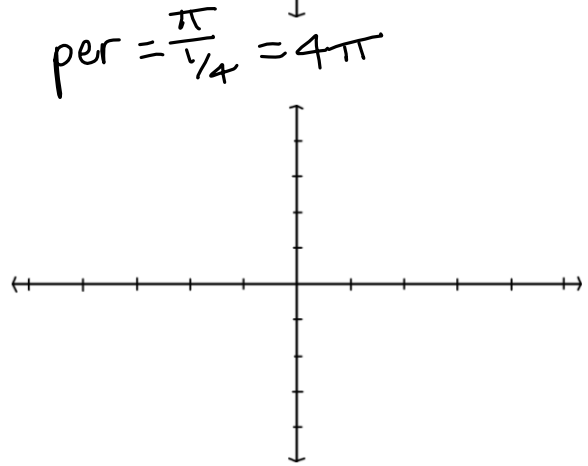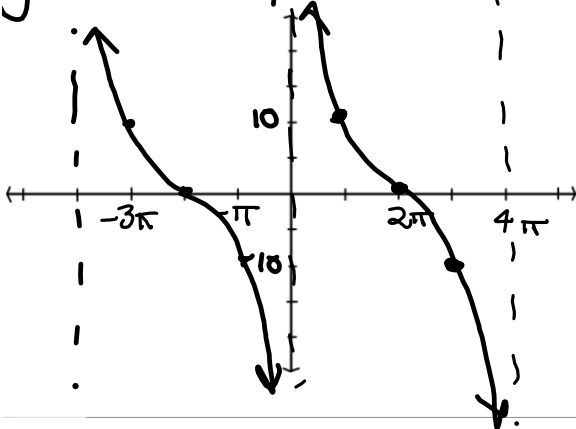
If $a < 0$, vertical flip

$\underline{\text{period}} = \dfrac{\text{original period } (2\pi \text{ or } \pi)}{|b|}$

If $b < 0$, horizontal flip

$y = \frac{1}{2}\tan 3x$ "amp": $\frac{1}{2}$ per: $\frac{\pi}{3}$

$y = 10\cot\frac{1}{4}x$ "amp" $= 10$ per $= \frac{\pi}{1/4} = 4\pi$

$y = -\csc(4x)$ amp $= 1$ per: $\frac{2\pi}{4} = \frac{\pi}{2}$