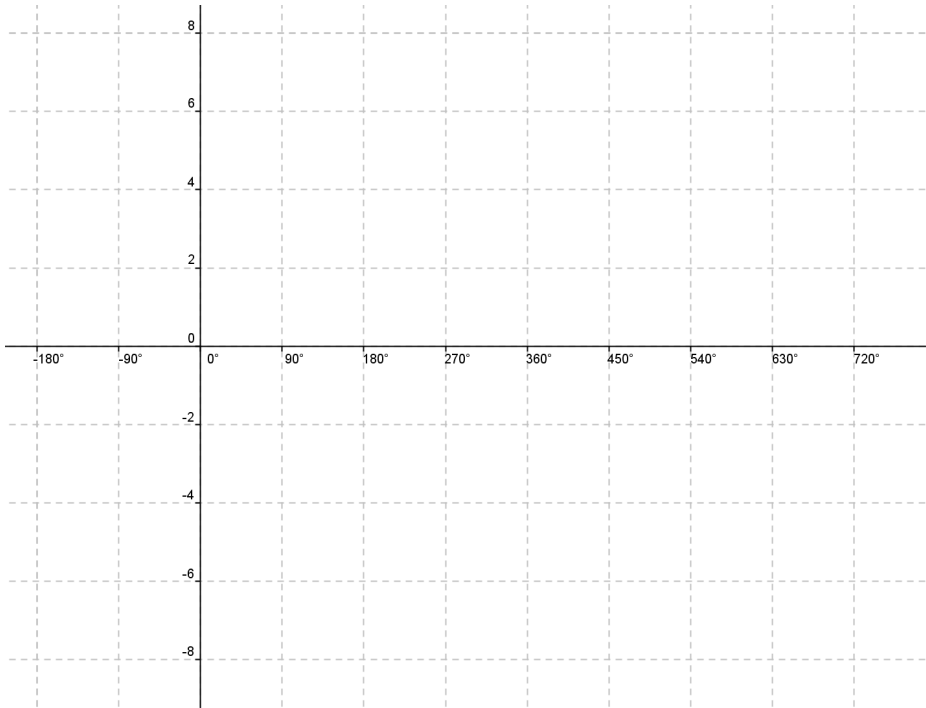


Advanced Math Week #5
Distributed Practice
Due Monday March 1st

1. Graph $f(\theta) = 3\cos\left(2x - \frac{\pi}{2}\right)$ on the axes provided below.



2. Simplify $\frac{1 + \tan^2 \theta}{1 + \cot^2 \theta}$ and represent it in terms of one of the 6 basic trigonometric functions we have discussed.

3. Determine the probability of someone guessing the correct combination that would unlock the padlock shown to the right. State your answer as a fraction.



4. Given that $\cos \theta = \frac{7}{25}$, determine all possible values of $\tan \theta$.
5. There are 20 teams at a tournament. Every team will play one another once. How many total games will be played?
6. Timmy's parents put \$4,000 into a bank account when he was born. It was worth \$10,000 when he went to college at the age of 18. Assuming that interest was compounded continuously, determine the interest rate of their account.
7. Mrs. P. is creating a word scramble for her Geography class. How many different ways could the word MASSACHUSETTS be arranged?