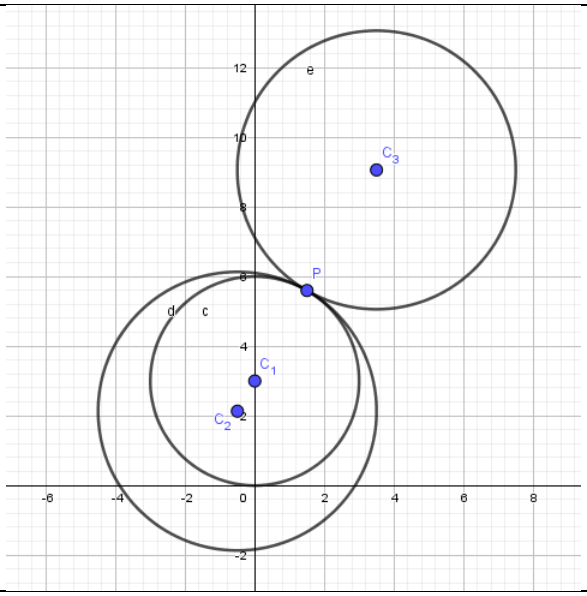
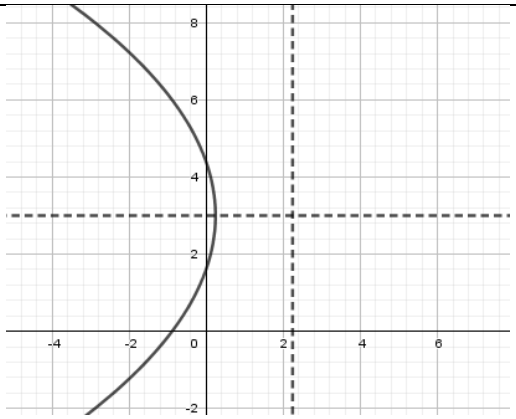
Quiz 10 Practice Test

1. Given a circle $C_1 : x^2 + (y-3)^2 = 9$ and a point $P\left(\frac{3}{2}, 3+\frac{3\sqrt{3}}{2}\right)$ on C_1, if another circle C_2 with radius of 4 intersects C_1 at exactly one point P. Find all possible equations of C_2	$\left(x+\frac{1}{2}\right)^2 + \left(y-3+\frac{\sqrt{3}}{2}\right)^2 = 16$, $\left(x-\frac{7}{2}\right)^2 + \left(y-3-\frac{7\sqrt{3}}{2}\right)^2 = 16$
2. Graph both C_1 and C_2 on the same coordinate plane.	
3. Find the standard form of a parabola with directrix $x = \sqrt{5}$ and the coordinates of focus $(-4+\sqrt{5}, 3)$	$-8(x-\sqrt{5}+2) = (y-3)^2$
4. Graph the parabola from the questions 3 and find the x and y intercepts	 x intercept: $\left(-\frac{25}{8}+\sqrt{5}, 0\right)$ y intercepts: $\left(0, 3 \pm \sqrt{8\sqrt{5}-16}\right)$
5. Given $T : 2x^2 = y-1$, find all possible tangent lines of the T pass through $(1,-1)$	$y+1 = (4 \pm 4\sqrt{2})(x-1)$

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6. Given $C:(x+3)^2+(y-1)^2=20$ and a point $P(1,3)$ on the circle, find the coordinate of a point Q (also on C) so that the distance from the center of the circle to the chord $\overline{PQ}$ is $\sqrt{2}$	$(-5,-3),\left(-\frac{37}{5},\frac{9}{5}\right)$