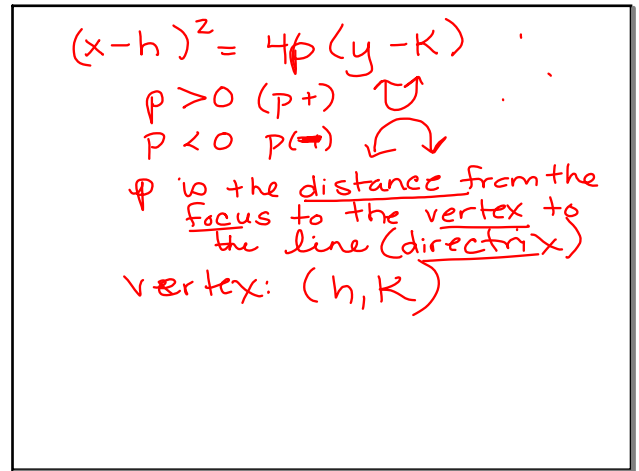
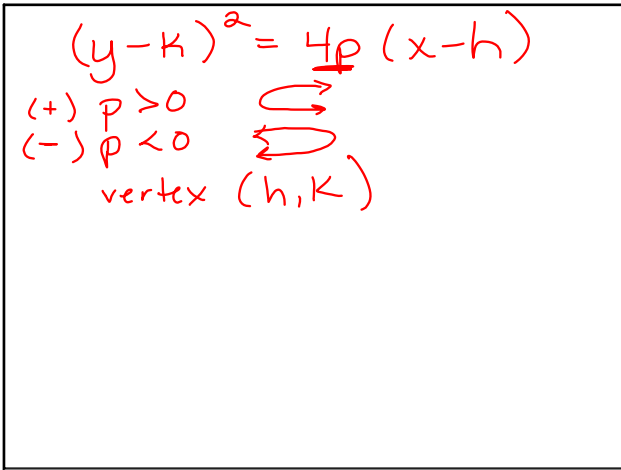


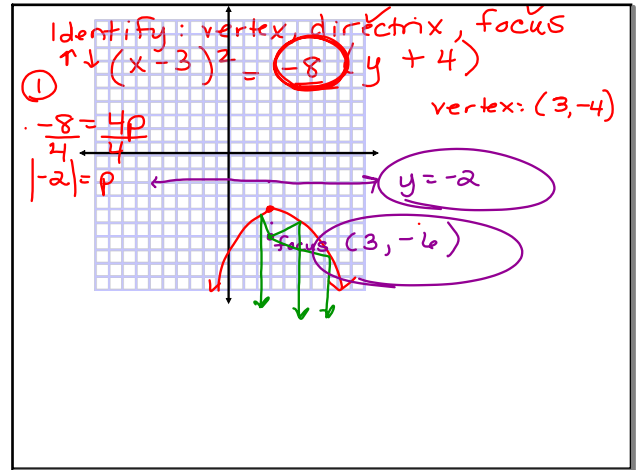
Oct 23-12:17 PM



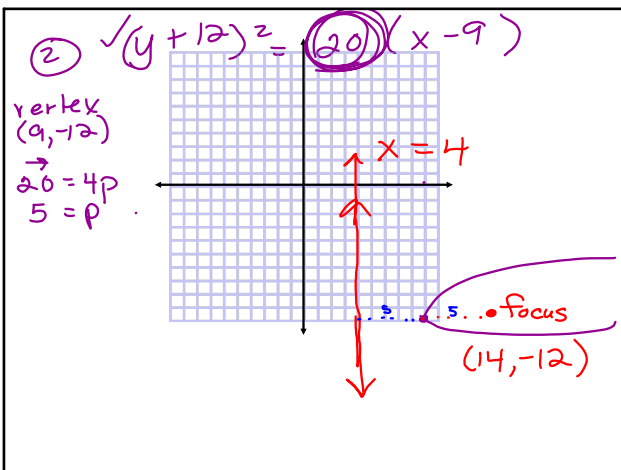
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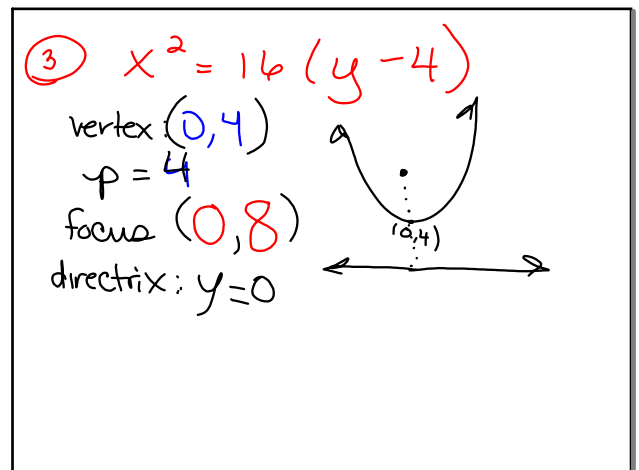
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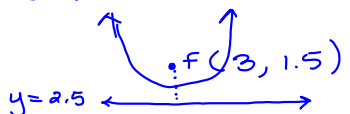
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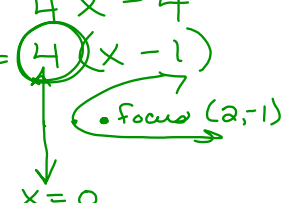
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④ $4x^2 - 40y - 24x - 4 = 0$
 $4x^2 - 24x = 40y + 4$
 $4(x^2 - 6x + \frac{9}{4}) = 40y + 4 + 36$
 $4(x-3)^2 = 40y + 40$
 $\frac{4}{4}(x-3)^2 = \frac{40y+40}{4}$
 $(x-3)^2 = 10y + 10$
 $(x-3)^2 = 10(y+1)$
 vertex: $(3, -1)$
 $10 = 4p$
 $\frac{10}{4} = p$
 $\frac{5}{2} = p$


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⑤ $y^2 - 4x + 2y + 5 = 0$
 $y^2 + 2y = 4x - 5$
 $y^2 + 2y + \frac{1}{4} = 4x - 5 + \frac{1}{4}$
 $(y+1)^2 = 4x - 4$
 $(y+1)^2 = 4(x-1)$
 vertex: $(1, -1)$
 $4p = 4$
 $p = 1$


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Bonus:

① vertex $(0, 0)$
 focus $(-3, 0)$

② focus $(2, 5)$
 directrix $x = 4$

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