

High School Math Problems  
2017  
Week 25  
Problem

For what values of the real parameter  $m$  do the equations

$$2x^2 - (3m + 2)x + 3n = 0$$

and

$$4x^2 - (9m - 2)x + 36 = 0$$

have a common root, if  $n = \sqrt{9 + 4\sqrt{5}} - \sqrt{9 - 4\sqrt{5}}$ ?