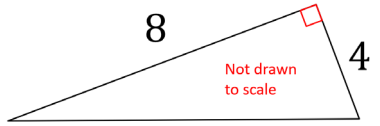
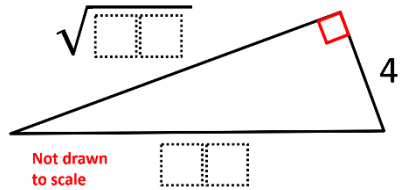
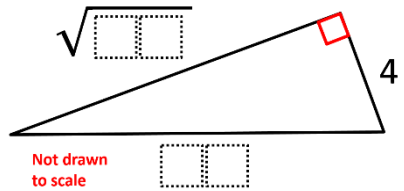
Depth of Knowledge Matrix – Eighth Grade Math

Topic	Approximating Irrationals	Properties of Exponents	Scientific Notation	Pythagorean Theorem
CCSS Stand.	• 8.NS.2	• 8.EE.1	• 8.EE.4	• 8.G.8
DOK 1 Example	The irrational number $\sqrt{70}$ is between which two integers?	Simplify. $4^3 \cdot -6^2$	Simplify. $2 \cdot 10^{-4} \cdot 5 \cdot 10^{7}$	Find the length of the missing side. 
DOK 2 Example	Using the digits 0 to 9 at most one time each, fill in the boxes twice to make two different true statements. You may reuse all the digits for each statement. $\sqrt{\square\square}$ is greater than $\square$ and less than $\square$	Using the integers -9 to 9 at most one time each, fill in the boxes twice to make a positive product and a negative product. You may reuse all the integers each product. $\square^{\square} \cdot \square^{\square}$	Using the digits 1 to 9 at most one time each, fill in the boxes twice to make a product that equals 800,000,000. You may reuse all the digits for each product. $\square \cdot 10^{\square} \cdot \square \cdot 10^{\square}$	Using the digits 0 to 9 at most one time each, fill in the boxes to find two pairs of possible lengths for the missing sides. 
DOK 3 Example	Using the digits 0 to 9 at most one time each, fill in the boxes twice to make the greatest possible irrational number. $\sqrt{\square\square}$ is greater than $\square$ and less than $\square$	Using the integers -9 to 9 at most one time each, fill in the boxes to make a product that is as close to zero as possible without being exactly zero. $\square^{\square} \cdot \square^{\square}$	Using the digits 1 to 9 at most one time each, fill in the boxes to make the greatest product. $\square \cdot 10^{\square} \cdot \square \cdot 10^{\square}$	Using the digits 0 to 9 at most one time each, fill in the boxes to find the lengths of the missing sides such that the missing leg's length is as long as possible. 

Version 1.1

Depth of Knowledge Matrix – Eighth Grade Math

Topic	Graphing Linear Equations	Linear Equations In 1 Variable	Scatter Plots	Systems of Equations
CCSS Stand.	• 8.EE.5	• 8.EE.7	• 8.SP.1	• 8.EE.8b
DOK 1 Example	Graph the line. $y = \frac{2}{3}x + -5$	Solve for x. $4x + 3 = 2x + 7$	Determine the association between the points. $(8,9), (0,-4), (3,2),$ $(-3,-6), (5,6), (-2,-5),$	Solve the system: $y = \frac{-1}{9}x + 6$ $y = \frac{5}{3}x + 4$
DOK 2 Example	Using the integers -9 to 9 at most one time each, fill in the boxes to make two linear equations which go through (1, 2): one with a negative slope and one with a positive slope. You may reuse all the integers for each equation. $y = \frac{\square}{\square}x + \square$	Using the digits 1 to 9 at most one time each, place a digit in each box to create two equations: one where x has a positive value and one where x has a negative value. $\square x + \square = \square x + \square$	Using the integers -9 to 9 at most one time each, fill in the boxes to create two sets of six points: one that has a positive association and one that has a negative association. You may reuse all the integers for each equation. $(\square,\square),(\square,\square),$ $(\square,\square),(\square,\square),$ $(\square,\square),(\square,\square)$	Using the integers -9 to 9 at most one time each, fill in the boxes to create a system of equations with a solution in Quadrant 2. $y = \frac{\square}{\square}x + \square$ $y = \frac{\square}{\square}x + \square$
DOK 3 Example	Using the integers -9 to 9 at most one time each, fill in the boxes to make a linear equation which goes through (1, 2) and has a slope that's as close to 0 as possible without being horizontal. $y = \frac{\square}{\square}x + \square$	Using the digits 1 to 9 at most one time each, place a digit in each box to create an equation with a solution that's as close to zero as possible. $\square x + \square = \square x + \square$	Using the integers -9 to 9 at most one time each, fill in the boxes to create the strongest possible linear association. $(\square,\square),(\square,\square),$ $(\square,\square),(\square,\square),$ $(\square,\square),(\square,\square)$	Using the integers -9 to 9 at most one time each, fill in the boxes to create a system of equations with a solution in that's as close to the origin as possible. $y = \frac{\square}{\square}x + \square$ $y = \frac{\square}{\square}x + \square$