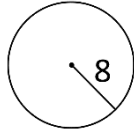
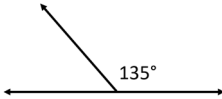


# Depth of Knowledge Matrix – Seventh Grade Math

Topic	Markup & Discount	Unit Rates with Fractions	+ and – Rational Numbers	x and ÷ Rational Numbers
CCSS Stand.	<ul style="list-style-type: none"> <li>7.RP.3</li> </ul>	<ul style="list-style-type: none"> <li>7.RP.1</li> </ul>	<ul style="list-style-type: none"> <li>7.NS.1</li> </ul>	<ul style="list-style-type: none"> <li>7.NS.2</li> </ul>
DOK 1 Example	<p>Find the final price of a \$75 item after a 45% discount.</p>	<p>Find the unit rate.</p> $\frac{2/9}{3/8} = \frac{\quad}{1}$	<p>Find the sum.</p> $-12 + -7$	<p>Find the quotient.</p> $\frac{-3}{4} \div \frac{7}{5}$
DOK 2 Example	<p>Using the digits 0 to 9 at most one time each, fill in the boxes to create two true statements without rounding. You may reuse all the digits for each statement.</p> <p>\$ <input type="text"/> <input type="text"/> item at a <input type="text"/> <input type="text"/> % discount costs \$ <input type="text"/> <input type="text"/></p>	<p>Using the digits 0 to 9 at most one time each, fill in the boxes to create two unit rates. You may reuse all the digits each equation.</p> $\frac{\square/\square}{\square/\square} = \frac{\square}{1}$	<p>Using the integers -9 to 9 at most one time each, fill in the boxes to create two equations. You may reuse all the integers for each equation.</p> $-\square + \square = \square - (-\square)$	<p>Using the integers -9 to 9 at most one time each, fill in the boxes to create two equations. You may reuse all the integers for each equation.</p> $-\frac{\square}{\square} \div \frac{\square}{\square} = \frac{\square}{\square}$
DOK 3 Example	<p>Using the digits 0 to 9 at most one time each, fill in the boxes to create the least expensive item after discount.</p> <p>\$ <input type="text"/> <input type="text"/> item at a <input type="text"/> <input type="text"/> % discount costs \$ <input type="text"/> <input type="text"/></p>	<p>Using the digits 0 to 9 at most one time each, fill in the boxes to create a unit rate with the greatest possible value.</p> $\frac{\square/\square}{\square/\square} = \frac{\square}{1}$	<p>Using the integers -9 to 9 at most one time each, fill in the boxes to create an equation where each side has the greatest possible value.</p> $-\square + \square = \square - (-\square)$	<p>Using the integers -9 to 9 at most one time each, fill in the boxes to create a quotient with the greatest possible value.</p> $-\frac{\square}{\square} \div \frac{\square}{\square} = \frac{\square}{\square}$

# Depth of Knowledge Matrix – Seventh Grade Math

Topic	Probability	Solving Two-Step Equations	Circles	Complementary & Supplementary Angles
CCSS Stand.	• 7.SP.5 & 7.SP.7	• 7.EE.4a	• 7.G.4	• 7.G.5
DOK 1 Example	What is the probability of rolling a sum of 5 using two 6-sided dice?	Solve for $x$ . $4x + 2 = -7$	Find the area. 	Find the missing angle in the supplementary angles below. 
DOK 2 Example	What value(s) have a 1/12 probability of being rolled as the sum of two 6-sided dice?	Using the digits 1 to 9 at most one time each, fill in the boxes to create two equations: one where $x$ has a positive value and one where $x$ has a negative value. You may reuse all the digits for each equation. $\square x + \square = \square$	Using the digits 0 to 9 at most one time each, fill in the boxes to create two possible circles. You may reuse all the digits for each statement. radius = $\square$ units The area is between $\square$ and $\square$ units <sup>2</sup>	Using the digits 0 to 9 at most one time each, fill in the boxes to create two sets of supplementary and complementary angles. You may reuse all the digits each set. Supplementary angles $\square$ ° and $\square$ ° Complementary angles $\square$ ° and $\square$ °
DOK 3 Example	Using the digits 1 to 9 at most one time each, fill in the blanks to make this sentence true.  Rolling a sum of $\square$ on two $\square$ -sided dice is the same probability as rolling a sum of $\square$ on two $\square$ -sided dice.	Using the digits 1 to 9 at most one time each, fill in the boxes to create an equation where $x$ has the least possible value. $\square x + \square = \square$	Using the digits 0 to 9 at most one time each, fill in the boxes to create a circle with the smallest difference between the area estimates. radius = $\square$ units The area is between $\square$ and $\square$ units <sup>2</sup>	Using the digits 0 to 9 at most one time each, fill in the boxes to create supplementary and complementary angles where the measures of each pair of angles are as close together as possible. Supplementary angles $\square$ ° and $\square$ ° Complementary angles $\square$ ° and $\square$ °