Depth of Knowledge Matrix - Elementary & Secondary Math

Topic	Adding Whole Numbers	Money	Fractions on a Number Line	Area and Perimeter	Subtracting Mixed Numbers
CCSS	• 1.NBT.4	• 2.MD.8	• 3.NF.2	3.MD.8	• 5.NF.1
Standard(s)	• 2.NBT.5	• 2.140.0	• 5.NI .Z	• 4.MD.3	• 5.141.1
DOK 1		If you have 2			Find the difference.
	Find the sum.	If you have 2	Which point is located at $\frac{7}{12}$	Find the perimeter	Find the difference.
Example		dimes and 3	below?	of a rectangle that	1 0
	44 + 27 =	pennies, how	LM NO	measures 4 units	$5\frac{1}{2}-4\frac{2}{3}=$
		many cents do you have?	<pre><++++++++++++++++++++++++++++++++++++</pre>	by 8 units.	$3\frac{1}{2} - 4\frac{1}{3} =$
		-	$0 \frac{1}{2}$ 1		
DOK 2	Fill in the boxes below	Make 47¢ in	Label the point where $\frac{3}{4}$	List the	Create three different mixed
Example	using the whole	three	belongs on the number line	measurements of	numbers that will make the
	numbers 1 through 9,	different	below. Be as precise as	three different	equation true by using the whole
	no more than one time	ways with	possible.	rectangles that	numbers 1 through 9, no more
	each, so that you make	either		each has a	than one time each. You may
	a true equation.	quarters,		perimeter of 20	reuse the same whole numbers
		dimes,	$\leftarrow \mid \mid \qquad \rightarrow \qquad \rightarrow$	units.	for each of the three mixed
	+ 53 =	nickels, or	$0 \frac{1}{3}$		numbers.
		pennies.			
					$5\frac{4}{5} - 3\frac{1}{20}$
					5 20
DOK 3	Maka tha lawaad ayya	Males 47+	Cuesto E fractione using the	What is the	Make the gradient difference by
	Make the largest sum	Make 47¢	Create 5 fractions using the		Make the smallest difference by
Example	by filling in the boxes below using the whole	using exactly 6 coins with	whole numbers 0 through 9, exactly one time each as	greatest area you can make with a	filling in the boxes below using the whole numbers 1 through 9,
	numbers 1 through 9,	either	numerators and denominators,		no more than one time each.
	no more than one time	quarters,	and place them all on a	rectangle that has a perimeter of 24	
	each.		number line.	units?	
		dimes, nickels, or			
		pennies.			
		Permies.			ii ii
	1				



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CCSS • Standard(s) • DOK 1 F Example a re th u 5 DOK 2 L	Volume 6.G.4 7.G.6 Find the surface area of a rectangular prism that measures 3 units by 4 units by 5 units. List the measurements of three different	 7.SP.5 7.SP.7 What is the probability of rolling a sum of 5 using two 6-sided dice? What value(s) have a 1/12 probability of being 	 8.G.1 G-CO.5 Rotate the image below 90° counterclockwise about point D and reflect it across a horizontal line. List three sequences of transformations that take pre- 	Quadratics • A-SSE.3a Find the factors: $2x^2 + 7x + 3$ Find three different	Form • F-IF.7a Find the roots and maximum of the quadratic equation below. $y = -3(x - 4)^2 - 3$ Create three
Standard(s) DOK 1 F Example a re th u 5 DOK 2 L	 7.G.6 Find the surface area of a rectangular prism that measures 3 units by 4 units by 5 units. List the measurements of three different 	 7.SP.7 What is the probability of rolling a sum of 5 using two 6-sided dice? What value(s) have a 1/12 probability of being 	 G-CO.5 Rotate the image below 90° counterclockwise about point D and reflect it across a horizontal line. List three sequences of 	Find the factors: $2x^2 + 7x + 3$ Find three different	Find the roots and maximum of the quadratic equation below. $y = -3(x - 4)^2 - 3$
DOK 1 F Example a re th u 5 DOK 2 L	Find the surface area of a rectangular prism that measures 3 units by 4 units by 5 units. List the measurements of three different	What is the probability of rolling a sum of 5 using two 6-sided dice? What value(s) have a 1/12 probability of being	Rotate the image below 90° counterclockwise about point D and reflect it across a horizontal line.	$2x^2 + 7x + 3$ Find three different	maximum of the quadratic equation below. $y = -3(x - 4)^2 - 3$
Example a re th u 5 DOK 2 L	area of a rectangular prism that measures 3 units by 4 units by 5 units. List the measurements of three different	rolling a sum of 5 using two 6-sided dice? What value(s) have a 1/12 probability of being	counterclockwise about point D and reflect it across a horizontal line.	$2x^2 + 7x + 3$ Find three different	maximum of the quadratic equation below. $y = -3(x - 4)^2 - 3$
re th u 5 DOK 2	rectangular prism that measures 3 units by 4 units by 5 units. List the measurements of three different	two 6-sided dice? What value(s) have a 1/12 probability of being	and reflect it across a horizontal line.	Find three different	quadratic equation below. $y = -3(x - 4)^2 - 3$
th u 5 DOK 2	that measures 3 units by 4 units by 5 units. List the measurements of three different	What value(s) have a 1/12 probability of being	across a horizontal line.	Find three different	below. $y = -3(x - 4)^2 - 3$
u 5 DOK 2 Li	units by 4 units by 5 units. List the measurements of three different	1/12 probability of being	horizontal line.		$y = -3(x-4)^2 - 3$
5 DOK 2	5 units. List the measurements of three different	1/12 probability of being	List three sequences of		
DOK 2	List the measurements of three different	1/12 probability of being	•		
-	measurements of three different	1/12 probability of being	•		Create three
Example m	three different	, , , ,	transformations that take pre-	the hard state of the second state of the seco	
				integers to put in	equations for
tł		rolled as the sum of two	image 🕺	the blank that will	quadratics in vertex
re	rectangular prisms	6-sided dice?	ABCD to	make the quadratic	form that have roots
tł	that each have a		image	expression	at 3 and 5 but have
SI	surface area of 20		А'В'С'D'.	factorable.	different maximum
S	square units.		y D' Pre-Image Image		and/or minimum
				$x^2 + _x + 4$	values.
DOK 3 W	What is the	Fill in the blanks to	What is the fewest number of	Fill the blank by	Create a quadratic
Example g	greatest volume	complete this sentence	transformations needed to take	finding the largest	equation with the
y	you can make with	using the whole numbers	pre-image ABCD to image A'B'C'D'?	and smallest	largest maximum
а	a rectangular	1 through 9, no more	В′	integers that will	value using the
р	prism that has a	than one time each.	A	make the quadratic	whole numbers 1
S	surface area of 20			expression	through 9, no more
S	square units?	Rolling a sum of on		factorable.	than one time each.
		twosided dice is the			
		same probability as rolling	► B V	$2x^2 + 3x + _$	$y = - [(x - [)^2 + [])$
		a sum of on two	Pre-Image Image		
		sided dice.			



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