## Unit 7 Lesson 4 Cumulative Practice Problems

1. Evaluate:
	1. $10^{0}$
	2. $\frac{10^{3}}{10^{3}}$
	3. $10^{2}+10^{1}+10^{0}$
2. Write each expression as a single power of 10.
	1. $\frac{10^{3}⋅10^{4}}{10^{5}}$
	2. $(10^{4})⋅\frac{10^{12}}{10^{7}}$
	3. $\left(\frac{10^{5}}{10^{3}}\right)^{4}$
	4. $\frac{10^{4}⋅10^{5}⋅10^{6}}{10^{3}⋅10^{7}}$
	5. $\frac{(10^{5})^{2}}{(10^{2})^{3}}$
3. The Sun is roughly $10^{2}$ times as wide as Earth. The star KW Sagittarii is roughly $10^{5}$ times as wide as Earth. About how many times as wide as the Sun is KW Sagittarii? Explain how you know.
4. Jada has a scale map of Kansas that fits on a page in her book. The page is 5 inches by 8 inches. Kansas is about 210 miles by 410 miles. Select **all** scales that could be a scale of the map. (There are 2.54 centimeters in an inch.)
	1. 1 in to 1 mi
	2. 1 cm to 1 km
	3. 1 in to 10 mi
	4. 1 ft to 100 mi
	5. 1 cm to 200 km
	6. 1 in to 100 mi
	7. 1 cm to 1000 km
* (From Unit 2, Lesson 7.)
1. Select **all** the expressions that are equivalent to $-36x+54y−90$.
	1. $-9(4x−6y−10)$
	2. $-18(2x−3y+5)$
	3. $-6(6x+9y−15)$
	4. $18(-2x+3y−5)$
	5. $-2(18x−27y+45)$
	6. $2(-18x+54y−90)$
* (From Unit 4, Lesson 8.)
1. Bananas cost $1.50 per pound, and guavas cost $3.00 per pound. Kiran spends $12 on fruit for a breakfast his family is hosting. Let $b$ be the number of pounds of bananas Kiran buys and $g$ be the number of pounds of guavas he buys.
	1. Write an equation relating the two variables.
	2. Rearrange the equation so $b$ is the independent variable.
	3. Rearrange the equation so $g$ is the independent variable.
* (From Unit 6, Lesson 3.)
1. Lin’s mom bikes at a constant speed of 12 miles per hour. Lin walks at a constant speed $\frac{1}{3}$ of the speed her mom bikes. Sketch a graph of both of these relationships.
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* (From Unit 5, Lesson 1.)



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