DMA Toolkit
Section IV

*Grade Level Resources**

DMA 10th grade:

- Sample Practice Assessment

*A 10th grade DMA is not currently administered by the State Department of Education. This resource is for your classroom use as you find appropriate.

Idaho Direct Mathematics Assessment
K-12 Toolkit
State Department of Education

Tenth-Grade Direct Math Assessment
Sample Practice Assessment

Name _____

Current Math Class (if any) _____

Select four problems to answer. Answer ALL of the parts of the four problems you select to answer. Cross our the one problem that you do not choose to answer. It is important that you explain and show how you solved the problems on this assessment. If you use a calculator, show how you set up the problem.

❶ You plan to buy a new car. The sticker price of the car is $18500. You have saved just enough to pay the down payment of $2000. The loan for your car is a 5-year loan.

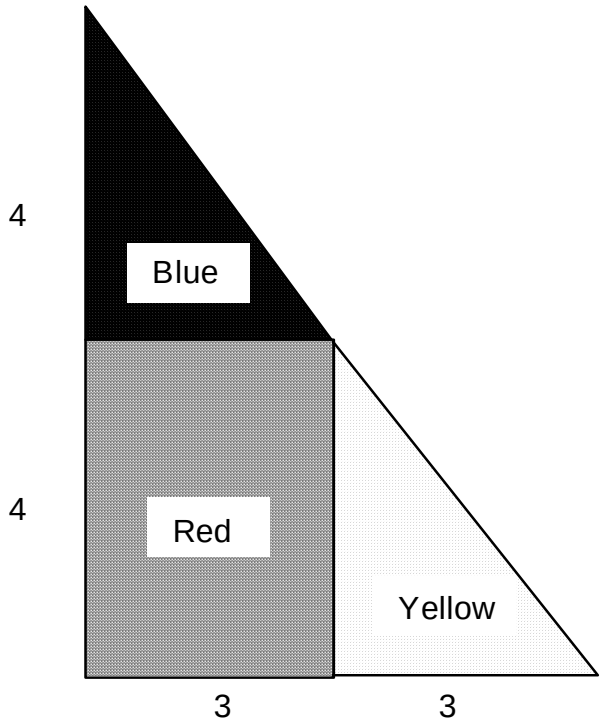
a. What is the total amount you will need to borrow to buy the car? *Show or explain how you find your answer.*

b. Your monthly payment will be $350.25. What will be the total of your payments for the 5-year loan? *Show or explain how you find your answer.*

c. How much total interest will you be paying? *Show or explain how you found your answer.*

d. The bank will allow you to spend 15% of your income on a car payment. What would your minimum monthly income need to be if you want to buy this particular car? *Show or explain how you find your answer.*

❷ A new game called Right Triangle Toss is becoming very popular. Take a beanbag and toss it onto the board while blindfolded. The object is to toss three beanbags into the same region.



a. What is the area of each colored region? *Show or explain how you find your answer.*

b. What is the probability of one beanbag being tossed into the red region? The blue region? The yellow region? *Show or explain how you find your answer.*

c. Find the probability of a beanbag landing in the yellow region three times in a row. *Show or explain how you find your answer.*

❸ On a trip to the grocery store to purchase bacon, Bob found three different specials. The sale prices are:

12 ounce package for $1.79
1 pound package for $2.19
2½ pound package for $4.50

a. Determine which package is the best value. (Recall 16 ounces = 1 pound.) *Show or explain how you find your answer.*

b. If Bob can go to the mean department and purchase any amount of cut and wrapped bacon, how much would he pay for 4 pounds at the best price found in part a. *Show or explain how you find your answer.*

c. With a 10% discount, the sale price of the bacon is $4.50. What was the original price of the bacon? *Show or explain how you find your answer.*

❹ A blueprint shows that Sarah's bedroom measures 4 ½" by 7 ¾". The blueprint scale is 1 inch = 2 feet.

a. How many square feet of carpet is needed to cover the bedroom floor? *Show or explain how you find your answer.*

b. Sarah chose carpet that costs $18.99 per square yard. How much will the carpet cost? *Show or explain how you find your answer.*

c. If sales tax is 6.25%, how much sales tax was paid on the carpet in Sarah's bedroom? *Show or explain how you find your answer.*

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❺ Carol is visiting relatives in Canada; the radio broadcasts a high of 25° Celsius.

a. Given the formula F=(9/5)C+32, what is the temperature in Fahrenheit? *Show or explain how you find your answer.*

b. What is the formula to convert back to Celsius? (Solve the equation for C.) *Show or explain how you find your answer.*

c. If it is 23°F, what temperature is that in degrees Celsius? *Show or explain how you find your answer.*