

MRC use: Time In _____ Out _____

Instructor use only: No Notes, No Book, Calculator OK, One Part Test, Time Limit 110 min., Last Day:

Name:

Date:

Math 25 Arithmetic Test

Work for up to 80 minutes.
Calculators **are** allowed. Your personal Math 25 "solutions manual" **is** allowed.
Reduce fraction answers.
No need to change improper fraction answers to mixed numerals.
Show numbered step-by-step answers!

1. The prime factorization of 320 has how many 2's?
2. A number minus $\frac{1}{56}$ equals $\frac{1}{8}$. What is the number?
3. Brand A costs \$19.36 for 11 ounces. Brand B costs \$15.49 for 8 ounces. What is the price per ounce for each? Which is the better buy?
4. 79% of what is 36?
5. A small business borrows \$7,833.50 at a 8% annual simple interest rate. It repays the loan after 213 days. How much interest does it owe?
6. Find the sum of $\frac{1}{3}$, $\frac{1}{4}$, and $\frac{1}{6}$.
7. Solve and write your answer as a rounded decimal: $\frac{40}{9} = \frac{n}{48}$
8. (2 pts) Find the mean and median of these six numbers: 608, 624, 640, 612, 624, 618.
9. One serving of toaster tarts has 4 grams of fat, 35 grams of carbohydrates (including 15 from sugar), and 2 grams of protein. Change to calories these amounts of fat, carbohydrate, sugar, and protein.
10. Continuing the previous problem, what percentage of the food's calories come from sugar?
11. (4 pts) Your friend is a 47-year-old very active woman who weighs 122 pounds and is 5 feet 8 inches tall. What is her estimated BMR, DCI, BMI, and percent body fat?
12. Continuing the previous problem, that same friend walks for 3 hours and 22 minutes. Walking burns 0.037 calories per pound per minute. How many calories does your friend burn? To how many 165-calorie *York Peppermint Pattie* candies is this equivalent?
13. Continuing the previous problem, what is that friend's maximum safe heart rate, minimum aerobic exercise heart rate, and maximum aerobic exercise heart rate?
14. An archaeologist finds a rectangular artifact that measures 5 inches by 5 inches by 8 inches. The artifact is 45% gold and 55% silver. Gold weighs 10.179 troy ounces per cubic inch. Silver weighs 5.527 troy ounces per cubic inch. What is the weight of the gold and silver that constitute the artifact?
15. Continuing the previous problem, currently gold costs \$1,245.67 per troy ounce and silver costs \$18.89 per troy ounce. What is the value of the gold and silver that constitute the artifact?
16. Scale up this simple but yummy single-serving cracker recipe to make 6 servings.

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|---------------------------|-------------------|
| • 2 Tbsp milk | • 1 tsp olive oil |
| • 1 Tbsp flaxseed meal | • 1 tsp sugar |
| • $\frac{1}{4}$ cup flour | • pinch salt |