



# Math Olympiad and Problem Solving Programs

F130 - Advanced Problem Solving

Problem Set 27.2 - Review

Name: \_\_\_\_\_

Date: \_\_\_\_\_

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1.  $\boxed{\$0.56}$

2. First let's write all the possible two digit numbers formed from this set of numbers:

27, 28, 29, 72, 78, 79, 82, 87, 89, 92, 97, 98

Now let's find which are prime. All the even numbers are obviously not prime. So we have:

27, 29, 79, 87, 89, 97

Since  $27 = 3 \times 9$  and  $87 = 3 \times 29$ , the primes are:

29, 79, 89, 97

So there are  $\boxed{4}$ .

3.  $\boxed{68}$

4. The median is the middle number. When we put the list in order, we have 6, 11, 12, 21, 30, so the median is 12. The mean is the average. When we average, we have  $\frac{6+11+12+21+30}{5} = \frac{80}{5} = 16$ . So the sum of the two numbers is  $12 + 16 = \boxed{28}$

5.  $\boxed{36.75}$

6. We know 1 *mile* = 5280 *feet* and 1 *hour* = 60 *min*. So we can do the following:

$$\frac{15 \text{ miles}}{1 \text{ hour}} \cdot \frac{5280 \text{ feet}}{1 \text{ mile}} \cdot \frac{1 \text{ hour}}{60 \text{ min}} = \frac{15 \cdot 5280}{60} \text{ ft/min}$$

When you complete the calculation, we get  $\boxed{1320 \text{ ft/min}}$ .

7.  $\boxed{15}$

8.  $\boxed{\text{Saturday}}$

9.  $\boxed{12}$

10. A multiple of 3 that is also a multiple of 4 is a multiple of  $3 \times 4 = 12$ . So we need to find the greatest multiple of 12 less than 500. We divide  $500 \div 12 = 41.7$ , so the multiple of 12 less than 500 is  $41 \times 12 = \boxed{492}$ .