

Orange County Math Circle New Year MATHCOUNTS Scrimmage

Target Round

Name:

School:

Grade:

1. Sara buys 20 dinosaurs and 30 alligators from a pet store. She then sells each dinosaur for \$21.50 and each alligator for \$36.70. If Sara sells all the dinosaurs for a profit of \$30 and all the alligators for a profit of \$201, what is the combined number of dollars from a dinosaur and an alligator at the pet store?

_____ (dollars)

2. Ten students are taking both algebra and Spanish. There are 24 students taking algebra. There are 11 students who are taking Spanish only. How many students are taking algebra or Spanish but not both?

_____ (students)

3. When the positive integers with exactly three factors are listed in ascending order, what is the fifth number listed?

4. A committee of three students met with the principal today and agreed that Rachel will report to the principal every 9 days, Jessica every 12 days, and Richard every 15 days. What is the least number of days before all three will again report to the principal on the same day?

_____ (days)

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5. Leon the Leprechaun is a tricky shoe seller. He has a pair of shoes that was priced at \$48 five days ago. To make his customers buy the shoes, he wants to put a "20% off" tag on the shoes, but he still wants the customer to pay \$50 for the shoes. He raises the price of the shoes so that after the 20% discount the shoes will cost \$48. What is the new price of the shoes before the discount?

_____ (dollars)

6. A fire truck travels at 50 mph and can follow a 25-mile route making no stops to get to the house on fire. A helicopter flies at one mile per minute, and the air route is 20 miles to get to the same house with an addition three minutes for landing and take-off. How many more minutes does the fire truck take to get to the fire than the helicopter?

_____ (minutes)

7. What integer is doubled when four is added to two-thirds of it?

_____ .

8. What is the arithmetic mean of all possible four-digit numbers which use the digits 1, 3, 5 and 7?

_____ .