Name: _____

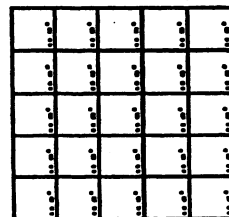*(This shows my own thinking.)*

★★★ 1. Name two consecutive prime numbers whose product is 667.

Answer : _____

★★★★ 2. The town library is being refurbished. The design calls for covering a large square floor, 21 feet on each side, with white, teal, and peach tiles. Each tile is 1 foot square. The tile in the center of the floor is to be white, and surrounded by a border of 8 teal tiles. The teal border is to be surrounded by a border of 16 peach tiles. The next border is white, then teal, then peach, and so on.

How many tiles of each color will be used in the floor? At a cost of $2.25 per tile, about how much -- to the nearest $100 -- will these tiles cost if you have to buy 10% more than the number to be used, to account for breakage?

Answer: _____ white tiles; _____ teal tiles; _____ peach tiles

Estimated cost of the tiles: _____

★ 3. You are a subway driver. At the first stop 3 people get on and 2 get off. At the next stop 5 people get on. At the third stop, 4 get off and 3 get on. At the next stop 3 get off and 2 get on. What is the driver's name?

Answer : _____

★★ 4. 300 students attend the Sweetheart Dance on Valentine's Day. The ratio of boys to girls is 6 to 4. If 30 boys and 20 girls leave, what is the new ratio of boys to girls who are still at the dance?

Answer: _____

★ 5. Evaluate $6y^2 - 3x + 5z$ when $x = -2$, $y = 4$, and $z = 10$.

Answer : _____

★★ 6. Jocelyn works in a bakery that serves gourmet muffins in different flavors. In one bakery case there are 15 blueberry, 28 apple cinnamon, 22 banana nut, and 35 blackberry muffins. A customer comes in and asks for any type of muffin that *doesn't* have nuts in it. If Jocelyn reaches into the case without looking, what is the probability she will pull out such a muffin -- one without nuts -- on her first try?

Answer : _____

★★★ 7. Dylan has a Hardy Nickerson poster he wants to frame. The poster is $2\frac{1}{2}$ feet by 4 feet. If he wants a matted border that is 2 inches wide, what size frame, in inches, will he need?

Answer : _____ in. by _____ in..

★★ 8. Wanda's average of her first five test scores was 88. Wanda can only find her first four tests now -- those scores were 80, 92, 85, and 97. What did Wanda make on the fifth test?

Answer : _____

★★★★ 9. A magazine has p consecutive pages torn out. Suppose L is the last numbered page before the torn out section and R is the first numbered page after the missing section.

a. Is p always an even number, or an odd number? _____

b. Is L always an even number, or an odd number? _____

c. Is R always an even number, or an odd number? _____

d. Write an equation for p in terms of L and R. _____

★★ 10. How many different ways can 48 identical desks be placed in rows if all rows have the same number of desks, each desk is in exactly one row, and no row has more than 20 desks or less than 3 desks ? (Hint: 8 rows with 6 desks is different from 6 rows with 8 desks.)

Answer: _____ ways

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