PATTERNS AND ALGEBRA
Recognize, Create, and Extend a Variety of Patterns and Functions

Directions: Pages 8-10 contain six responses written by students throughout New Jersey to the question you answered on page 7. Read each of these responses carefully. In the space below indicate which three are the best responses and which three are the worst. Use the *Comments* section to tell why each answer is one of the best or one of the worst. In addition, answer these two questions:

- Does the response show an approach or method that is different from yours? If so, tell how it is different.
- Does this response contain errors? If so, tell how to correct the errors.

Three best responses: _____ Three worst responses: _____

Tell why: _____

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Response #1:

The first figure inspected by all three inspection crews is the 300th figure. I used upside down division to find this. After dividing each number (15, 20, 25) by 5, I multiplied 3, 4, and 5 by 5. This was 300 – the LCM of 15, 20, 25. If they produce 225 of these toys per hour, they make 2700 figures a day. This means they inspect 9 figures a day. I divided 2700 by 300. Without defects, 8 will be available for shipping. 89% of 9 figures is 8.01. Since you can't have 1/100 of a figure, 8 is my answer.

Comments: _____

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Response #2:

1. I started with the biggest number 25 and listed the multiples looking for something that 15 and 20 will go into to.
   25, 50, 75, 100, 125, 150, 175, 200, 225, 250, 275, 300 ← there it is! So figure 300 is the one everybody inspects. Keep going
2. they all check 300, 600, 900, 1200, 1500, 1800, 2100, 2400, 2700 which is how many they make so 9 every day get inspected.
3. 11% of 9 = 1 so for 9, 1 fails, for 18, 2 fails, for 27, 3 fails … and I keep going and since 9 times 300 is 2700 there's 300 fails so 2700 – 300 is 2400 passes and are good.

Comments: _____

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Response #3:

There are 225 toys an hours times 12 hours a day = 2700 crusaders every day. John's crew does every 15 and 2700 ÷ 15 = 180, Paulos crew does every 20 so 2700 ÷ 20 = 135. Ghaurvs crew does every 25 so 2700 ÷ 25 = 108

180 + 135 + 108 = 423 inspected each day by three crews.
11% are defective so .11 x 423 is 46.53 so 46 don't work 423 – 46 = 377 do.

Comments: _____

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Response #4

LCM(15, 20, 25) = 300 which is first inspected by all.
2700 made each day. 2700/300 = 9 inspected each day.
89% are without defects so .89(2700) = 2403 can ship.

Comments: _____

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Response #5:

15 = 3 x 5 20 = 2 x 2 x 5 25 = 5 x 5
2 x 2 x 3 x 5 x 5 = 300th

225 20 hours
4500 are going to be produced
Ghaurv: 180
Paulo: 225
John: 300
that's 705 toys

3137 toys

Comments: _____

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Response #6:

The 15th figure is the first one inspected by John's crew.
The 20th figure is the first one inspected by Paulo's crew.
The 25th figure is the first one inspected by Ghaurv's crew.

They make 2700 a day
The 1st crew inspects 180
The 2nd crew inspects 135
The 3rd crew inspects 108
That's a total of 423 each day inspected by all.

If 11% fail inspection, then 11% of 423 is 46.53 so about 47 would fail.

Using a proportion $\frac{47}{423} = \frac{?}{2700}$ I got 300 would fail so 2700 – 300 = 2400 would ship.

Comments: _____

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