

Name: Class:

Divisibility rules: word problems

1. Nancy and Tracy want to donate \$ 549,924 to at most 12 orphanages. They want to share the money equally to these orphanages. Using the divisibility rule, how many possible number of orphanages can they be able to donate money to?
2. Patrick intends to open an electronic shop. He has 1,550 electronics in stock to put on the shelves in his shop. He intends to place an equal number of electronics on each shelf. Determine using the rule of divisibility, the possible number of shelves he could use (keeping in mind that the shelves must not exceed 10)
3. Peter's warehouse still has 241,122 packs of bottled water. These packs are arranged equally on shelves in the warehouse. How many shelves containing packs of bottled water are there?
a. 5 b. 6 c. 10 d. 8



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Divisibility rules: word problems

1. Nancy and Tracy want to donate \$ 549,924 to at most 12 orphanages. They want to share the money equally to these orphanages. Using the divisibility rule, how many possible number of orphanages can they be able to donate money to?

To solve this problem, let's find all the possible numbers from 1 to 12 that can divide the given amount of money without a remainder.

You see that, after applying the divisibility rule to \$ 549,924, the following numbers 1,2,3,4,6, or 12 divides the number without a remainder.

Therefore, they can be able to donate money to 1 or 2 or 3 or 4 or 6 or 12 orphanages.

2. Patrick intends to open an electronic shop. He has 1,550 electronics in stock to put on the shelves in his shop. He intends to place an equal number of electronics on each shelf. Determine using the rule of divisibility, the possible number of shelves he could use (keeping in mind that the shelves must not exceed 10)

To solve this problem, let's find all the possible numbers from 1 to 10 that can divide 1,550 without a remainder.

You see that, after applying the divisibility rule to 1,550 the numbers 1, 2, 5 or 10 can divide 1,550 without a remainder.

Therefore, he could use 1 or 2 or 5 or 10 shelves.

3. Peter's warehouse still has 241,122 packs of bottled water. These packs are arranged equally on shelves in the warehouse. How many shelves containing packs of bottled water are there?

a. 5 **b. 6** c. 10 d. 8

Let's pick out a number from the list that divides 241,122 without a remainder by applying the divisibility rule.

You see that, after applying the rule to all the digits in the list, the rule is true for 6 because the number is divisible by both 2 and 3.

So, 241,122 is divisibly by 6

Therefore there are 6 shelves with packs of bottled water arranged on them.

