Divisibility rules practice

Grade 6 Factoring Worksheet

A. For each number on the left, place a check mark (✓) under the numbers it is divisible by. Use the divisibility rules on page 2.

Number	2	3	5	6	9	10
1) **96**						
2) **135**						
3) **210**						
4) **405**						
5) **512**						
6) **750**						
7) **864**						
8) **945**						
9) **4,862**						
10) **7,920**						

B. Write your answers in the spaces provided.

1) Write any 3-digit number divisible by 6. _____
2) Write any 3-digit number divisible by 9. _____
3) Write a number less than 1,000 that is divisible by 2, 3, and 10. _____
4) Explain why 972 is divisible by 3 and 9.

_____

_____

_____

Divisibility Rules

Divisible by	Rule
2	A number is divisible by 2 if its last digit is 0, 2, 4, 6, or 8.
3	A number is divisible by 3 if the sum of its digits is divisible by 3.
4	A number is divisible by 4 if its last two digits are divisible by 4.
5	A number is divisible by 5 if its last digit is 0 or 5.
6	A number is divisible by 6 if it is divisible by both 2 and 3.
7	A number is divisible by 7 if the difference between twice the last digit and the remaining number is 0 or a multiple of 7.
8	A number is divisible by 8 if its last three digits are divisible by 8.
9	A number is divisible by 9 if the sum of its digits is divisible by 9.
10	A number is divisible by 10 if its last digit is 0.
11	A number is divisible by 11 if the difference between the sums of alternating digits is 0 or a multiple of 11.
12	A number is divisible by 12 if it is divisible by both 3 and 4.

Answers

Number	2	3	5	6	9	10
1) **96**	✓	✓		✓	✓	
2) **135**		✓	✓		✓	
3) **210**	✓	✓	✓	✓		✓
4) **405**		✓	✓		✓	
5) **512**	✓					
6) **750**	✓	✓	✓	✓	✓	✓
7) **864**	✓	✓		✓	✓	
8) **945**		✓	✓		✓	
9) **4,862**	✓					
10) **7,920**	✓	✓	✓	✓	✓	✓

1) Write any 3-digit number divisible by 6. 132 (Answers may vary)
2) Write any 3-digit number divisible by 9. 108 (Answers may vary)
3) Write a number less than 1,000 that is divisible by 2, 3, and 10. 120 (Answers may vary)
4) Explain why 972 is divisible by 3 and 9.
   972 is divisible by 3 because the sum of its digits is 9 + 7 + 2 = 18, and 18 is divisible by 3. It is also divisible by 9 because 18 is divisible by 9. Therefore, 972 is divisible by both 3 and 9.