

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	4	5	6	7	8	9	10	11	12
1) 375											
2) 512											
3) 680											
4) 777											
5) 1,248											
6) 5,040											
7) 7,824											
8) 5,005											
9) 12,876											
10) 14,270											

B. Write your answers in the spaces provided.

1) Write any 3-digit number divisible by 2 and 3. _____

2) Write any 3-digit number divisible by 4, 5 and 10. _____

3) Write any 3-digit number divisible by 3, 4 and 12. _____

4) Is 234 divisible by 2, 3 and 6? Explain your answer.

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	4	5	6	7	8	9	10	11	12
1) 375		✓		✓				✓	✓		
2) 512	✓		✓				✓				
3) 680	✓		✓	✓			✓		✓		
4) 777		✓				✓		✓			
5) 1,248	✓	✓	✓		✓		✓	✓			✓
6) 5,040	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
7) 7,824	✓	✓	✓		✓		✓	✓			✓
8) 5,005				✓		✓				✓	
9) 12,876	✓	✓	✓		✓			✓			✓
10) 14,270	✓		✓	✓					✓		

- 1) Write any 3-digit number divisible by 2 and 3. 108 (Answers may vary)
- 2) Write any 3-digit number divisible by 4, 5 and 10. 100 (Answers may vary)
- 3) Write any 3-digit number divisible by 4 and 12. 120 (Answers may vary)
- 4) Is 234 divisible by 2, 3 and 6? Explain your answer.

Yes, 234 is divisible by 2, 3, and 6. It is divisible by 2 because it is an even number since it ends in 4. It is divisible by 3 because the sum of its digits ($2 + 3 + 4 = 9$) is divisible by 3. Since 234 is divisible by both 2 and 3, it is also divisible by 6.