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	4	7	8	11	12
1) **128**					
2) **147**					
3) **256**					
4) **363**					
5) **480**					
6) **616**					
7) **792**					
8) **1,012**					
9) **2,145**					
10) **3,168**					

B. Write your answers in the spaces provided.

1) Write any 3-digit number divisible by 4 and 8. _____

2) Write any 3-digit number divisible by 7 and 11. _____

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

4) Explain why 864 is divisible by 4 and 12.

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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	4	7	8	11	12
1) **128**	✓		✓		
2) **147**		✓			
3) **256**	✓		✓		
4) **363**				✓	
5) **480**	✓		✓		✓
6) **616**	✓	✓	✓		
7) **792**	✓				✓
8) **1,012**	✓				
9) **2,145**				✓	
10) **3,168**	✓		✓		✓

1) Write any 3-digit number divisible by 4 and 8. 384 (Answers may vary)
2) Write any 3-digit number divisible by 7 and 11. 154 (Answers may vary)
3) Write any 3-digit number divisible by 12. 144 (Answers may vary)
4) Explain why 864 is divisible by 4 and 12.

864 is divisible by 4 because the last two digits are 64, and 64 is divisible by 4. It is divisible by 12 because it is divisible by both 3 and 4. The sum of its digits is 8 + 6 + 4 = 18, and 18 is divisible by 3. Therefore, 864 is divisible by both 4 and 12.