Nelson MATHS

Victorian Curriculum

6

Student Book

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Composite Numbers

1 Cross out the prime numbers.

2 **5** **7** **9** **11** **17** **20** **19** **23** **27** **30**
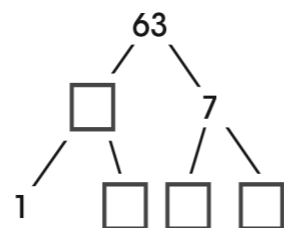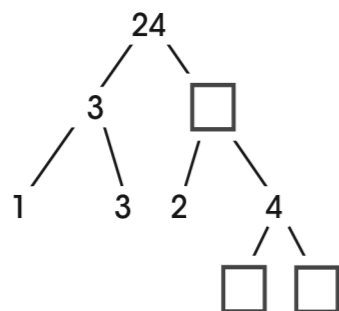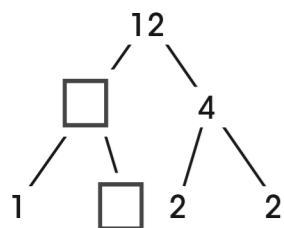
2 Create factor trees for each of the composite numbers above.

3 Draw factor trees for each number.

28   36   40   4

4 Fill in the gaps in the factor trees.

12
□   4
1   □   2   2

24
3   □
1   3   2   4
□   □

63
□   7
1   □ □ □

Extension: On another sheet of paper, draw factor trees for each of these numbers.

96   **144**   **160**   **216**   **250**

Using the Rules of Divisibility

1 Explore each of the rules of divisibility with the examples below. Circle the numbers that are divisible by the number in the first column.

Divisible by	Rule	Numbers			
2	Last digit is divisible by 2.	459	720	456	889
3	The sum of the digits is divisible by 3.	156	7 861	1 079	4 567
4	The last 2 digits make a number that is divisible by 4.	179	1 058	4 462	33 980
6	The number is divisible by 2 and 3.	48	196	3 284	10 980
8	The last 3 digits make a number that is divisible by 8.	3 616	1 709	44 826	11 284
9	The sum of the digits is divisible by 9.	1 169	1 872	48 935	110 872

2 Use the rules of divisibility to find the prime factors of each number.

a 89 _____

b 167 _____

c 872 _____

d 1 042 _____

e 3 846 _____

SAMPLE

Square and Triangular Numbers

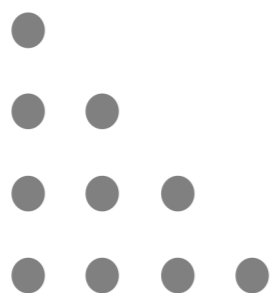**1** Circle the square numbers. Underneath each square number, write its square root. One has been done.

16   **25**   **33**   **36**   **42**   **49**   **56**   **64**

_4_   ____   ____   ____   ____   ____   ____   ____

2 Using the triangle as a guide, list the first ten triangular numbers.

1

3

6

____

____

____

____

____

____

____
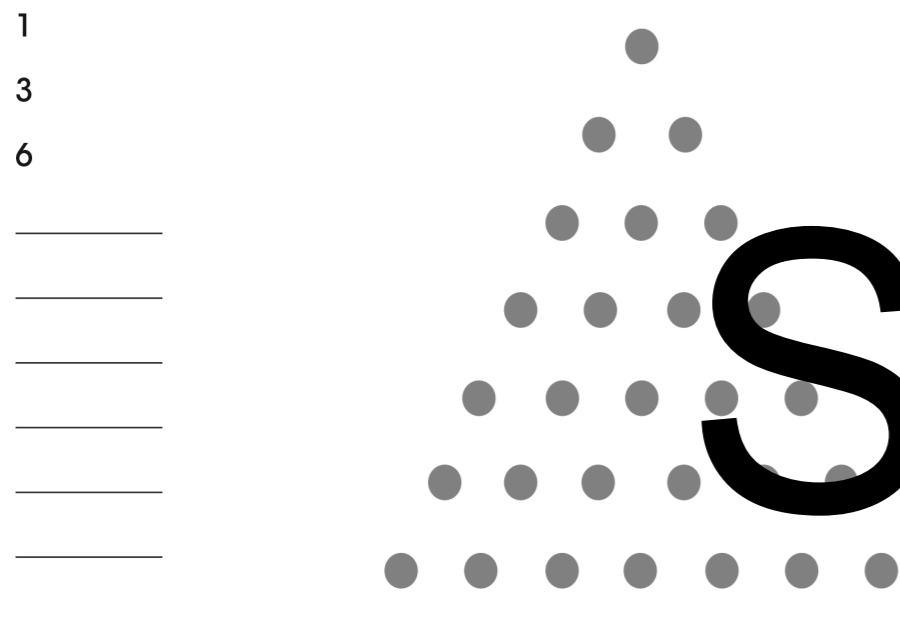
3 Does this triangle still show triangular numbers?

_____

Extension: On another sheet of paper, make your own number pattern based on a shape. For example, diamond numbers or hexagonal numbers.

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1 Draw factor trees for each number.

60   42

List all of the factors for each number.

a _____

b _____

c 102 _____

d 156 _____

3 What is a composite number?

_____

Give two examples: **a** _____   **b** _____

4 Give the prime factors of your composite numbers from Question 3.

a _____

b _____

5 Is 100 a square number? Explain. _____

_____

6 Is 100 a triangular number? Explain. _____

_____