# **AUSTRALIAN CURRICULUM MATHEMATICS TEST**

YEAR 6 NUMBER AND ALGEBRA:

PRIME, COMPOSITE, SQUARE AND TRIANGULAR NUMBERS

42

43

44

Circle all the	prime	numbers	in	these sets.

21

1	2	8	10	16	19	21	27	30

23

#### What composite numbers do these pairs of factors compose? Shade in the hubble

Shade in the bubble.						
6	3 and 4					

13

$$\bigcirc$$
 10  $\bigcirc$  12  $\bigcirc$  14

41

$$\bigcirc$$
 16  $\bigcirc$  12  $\bigcirc$  8

 $\bigcirc$  20

$$\bigcirc$$
 12  $\bigcirc$  24  $\bigcirc$  32  $\bigcirc$  48

### What is the square of 3? Shade in the bubble.

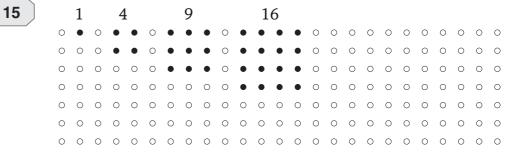
# What is the square of 4? Shade in the bubble.

# What is the square of 10? Shade in the bubble.

 $\bigcirc$  12

Dots have been shaded to represent the first 4 square numbers.

Shade in the dots to represent the next square number and write the number.



#### Which is NOT a square number? Shade in the bubble.

□ 36

 $\bigcirc$  81

Dots have been shaded to represent the first 4 triangular numbers.

Shade in the dots to represent the next triangular number and write the number.

#### Which is NOT a triangular number? Shade in the bubble.

 $\bigcirc$  21

 $\bigcirc$  35

### Complete.

What is special about the answer if you add any triangular number to the next triangular number after that one?

# Complete.

$$8 \times 3 + 1 = _{\_\_}$$

$$8 \times 6 + 1 = _{-}$$

$$8 \times 10 + 1 = ____$$

What is special about the answer if you multiply any triangular number by 8 and then add 1?

#### CHECK YOUR SCORE FOR THE TEST

BASIC LEVEL 1 - 9

INTERMEDIATE LEVEL 10 - 16

ADVANCED LEVEL 17 - 20

#### **ANSWERS TO AUSTRALIAN CURRICULUM MATHEMATICS TEST**

YEAR 6 NUMBER AND ALGEBRA:

PRIME, COMPOSITE, SQUARE AND TRIANGULAR NUMBERS

(19)

24

25

(29)

21

(31)

(37)

39

### Circle all the prime numbers in these sets.

10

15

(11)

(17)

2

8

12

9

(5)

(3)

(13)

21

(23)

16

(17)

18

20

(41)

42

(43) 44

27

35

42

48

30

36

49

50

#### What composite numbers do these pairs of factors compose? Shade in the bubble.

3 and 4

 $\bigcirc$  7

 $\bigcirc$  10

 $\bigcirc$  12

 $\bigcirc$  24

 $\bigcirc$  12

 $\bigcirc$  55

 $\bigcirc$  14

 $\bigcirc$  28

 $\bigcirc$  8

 $\bigcirc$  65

3 and 8

 $\bigcirc$  11

 $\bigcirc$  18

 $\bigcirc$  16

4 and 4

 $\bigcirc$  20

5 and 7

35

6 and 4

 $\bigcirc$  12

 $\bigcirc$  24

 $\bigcirc$  45

**32** 

 $\bigcirc$  48

### What is the square of 3? Shade in the bubble.

 $\bigcirc$  6

11

10

 $\bigcirc$  3

**9** 

 $\bigcirc$  12

# What is the square of 2? Shade in the bubble.

12

 $\bigcirc$  8

 $\bigcirc$  4

 $\bigcirc$  2

 $\bigcirc$  0

### What is the square of 4? Shade in the bubble.

13

 $\bigcirc$  16

 $\bigcirc$  12

 $\bigcirc$  10

**8** 

# What is the square of 10? Shade in the bubble.

14

 $\bigcirc$  1

 $\bigcirc$  10

**100** 

**1000** 

Dots have been shaded to represent the first 4 square numbers.

Shade in the dots to represent the next square number and write the number.

15 1

#### Which is NOT a square number? Shade in the bubble.

16

□ 36

 $\bigcirc$  49

 $\bigcirc$  81

 $\bigcirc$  84

Dots have been shaded to represent the first 4 triangular numbers.

Shade in the dots to represent the next triangular number and write the number.

17

10 15  $\bullet \hspace{0.1cm} \circ \hspace{0.1cm} \bullet \hspace{0.1cm} \circ \hspace{0.1cm} \bullet \hspace{0.1cm} \circ \hspace{0.1cm} \circ \hspace{0.1cm} \bullet \hspace{0.1cm} \circ \hspace{0.1c$ 0 0 0 0 0 0 0 0 0 0 0 • • • •  $\ \, 0 \$ 

Which is NOT a triangular number? Shade in the bubble.

18

 $\bigcirc$  21

 $\bigcirc$  28

 $\bigcirc$  35

 $\bigcirc$  45

## Complete.

1 + 3 = <u>4</u> 3 + 6 = <u>9</u> 6 + 10 = <u>16</u>

What is special about the answer if you add any triangular number to the next triangular number after that one?

The answer is a square number.

# Complete.

 $8 \times 1 + 1 = 9$   $8 \times 3 + 1 = 25$   $8 \times 6 + 1 = 49$   $8 \times 10 + 1 = 81$ 

What is special about the answer if you multiply any triangular number by 8 and then add 1?

The answer is a square number.

#### CHECK YOUR SCORE FOR THE TEST

BASIC LEVEL 1 - 9

INTERMEDIATE LEVEL 10 - 16

ADVANCED LEVEL 17 - 20