

**AUSTRALIAN CURRICULUM MATHEMATICS TEST**  
YEAR 6 NUMBER AND ALGEBRA:  
PRIME, COMPOSITE, SQUARE AND TRIANGULAR NUMBERS

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

<b>1</b>	2	8	10	16	19	21	27	30
<b>2</b>	7	12	15	17	24	31	35	36
<b>3</b>	4	9	11	18	25	37	42	49
<b>4</b>	3	5	17	20	29	39	48	50
<b>5</b>	6	13	21	23	41	42	43	44

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

<b>6</b>	3 and 4	<input type="checkbox"/> 7	<input type="checkbox"/> 10	<input type="checkbox"/> 12	<input type="checkbox"/> 14
<b>7</b>	3 and 8	<input type="checkbox"/> 11	<input type="checkbox"/> 18	<input type="checkbox"/> 24	<input type="checkbox"/> 28
<b>8</b>	4 and 4	<input type="checkbox"/> 20	<input type="checkbox"/> 16	<input type="checkbox"/> 12	<input type="checkbox"/> 8
<b>9</b>	5 and 7	<input type="checkbox"/> 35	<input type="checkbox"/> 45	<input type="checkbox"/> 55	<input type="checkbox"/> 65
<b>10</b>	6 and 4	<input type="checkbox"/> 12	<input type="checkbox"/> 24	<input type="checkbox"/> 32	<input type="checkbox"/> 48

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

<b>11</b>	<input type="checkbox"/> 3	<input type="checkbox"/> 6	<input type="checkbox"/> 9	<input type="checkbox"/> 12
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**What is the square of 2? Shade in the bubble.**

<b>12</b>	<input type="checkbox"/> 8	<input type="checkbox"/> 4	<input type="checkbox"/> 2	<input type="checkbox"/> 0
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**What is the square of 4? Shade in the bubble.**

<b>13</b>	<input type="checkbox"/> 16	<input type="checkbox"/> 12	<input type="checkbox"/> 10	<input type="checkbox"/> 8
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**What is the square of 10? Shade in the bubble.**

<b>14</b>	<input type="checkbox"/> 1	<input type="checkbox"/> 10	<input type="checkbox"/> 100	<input type="checkbox"/> 1000
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[illegible]

## 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

Circle all the prime numbers in these sets.

1	2	8	10	16	19	21	27	30
2	7	12	15	17	24	31	35	36
3	4	9	11	18	25	37	42	49
4	3	5	17	20	29	39	48	50
5	6	13	21	23	41	42	43	44

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

6	3 and 4	<input type="radio"/> 7	<input type="radio"/> 10	<input checked="" type="radio"/> 12	<input type="radio"/> 14
7	3 and 8	<input type="radio"/> 11	<input type="radio"/> 18	<input checked="" type="radio"/> 24	<input type="radio"/> 28
8	4 and 4	<input type="radio"/> 20	<input checked="" type="radio"/> 16	<input type="radio"/> 12	<input type="radio"/> 8
9	5 and 7	<input checked="" type="radio"/> 35	<input type="radio"/> 45	<input type="radio"/> 55	<input type="radio"/> 65
10	6 and 4	<input type="radio"/> 12	<input checked="" type="radio"/> 24	<input type="radio"/> 32	<input type="radio"/> 48

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

11 ☐ 3 ☐ 6 ☒ 9 ☐ 12

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

12 ☐ 8 ☒ 4 ☐ 2 ☐ 0

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

**13** ☒ 16 ☐ 12 ☐ 10 ☐ 8

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

**14** ☐ 1 ☐ 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 4 9 16 25

The grid shows a 10x10 layout of circles. The first column is labeled '15'. The first row is labeled with dates 1, 4, 9, 16, and 25. The 15th day of each month is marked with a solid black circle. The 15th of the current month is highlighted with a larger black circle.

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

16 ☐ 36 ☐ 49 ☐ 81 ☒ 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

1 3 6 10 15

	1	3	6	10	15
1	1	3	6	10	15
3	3	9	18	30	45
6	6	18	36	60	90
10	10	30	60	100	150
15	15	45	90	150	225

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

**18** ☐ 21 ☐ 28 ☒ 35 ☐ 45

**Complete.**

**19**      $1 + 3 = \underline{4}$                        $3 + 6 = \underline{9}$                        $6 + 10 = \underline{16}$

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.**

**20**      $8 \times 1 + 1 = \underline{9}$       $8 \times 3 + 1 = \underline{25}$       $8 \times 6 + 1 = \underline{49}$       $8 \times 10 + 1 = \underline{81}$

**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**