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Check **ANSWERS** Your Week 2 **(b)** As 10 years = one decade, 8 Volume =  $7 \times 5 \times 6$ 10 decades in a century, = 21010 centuries in a millennium The volume is 210 cm<sup>3</sup>. This means there are 100 decades in a ❷ As 1000 kg = 1 t, 39.05 × 1000 = 39 050 millennium. This means 39.05 t is 39 050 kg. **16** ÷ 1000 = 0.006  $\mathbf{0}$  Volume = 12 × 5 × 10 This means 6 mm = 0.006 m = 600The volume is 600 cm<sup>3</sup>. **MEASUREMENT AND GEOMETRY** Area = 320 × 300 (Test Your Skills) = 96 000 \* Area, volume and capacity Page 42 Hectares = 96 000 ÷ 10 000 **1** Area = 14 × 8 = 9.6 The area is 9.6 hectares.  $= 2 \times 7 \times 8$  $= 2 \times 56$ By counting the area of the front face, = 112which is 16 units<sup>2</sup>. The area is 112 cm<sup>2</sup>. Total area =  $16 \times 6$ **2** As 12 × 9 = 108 = 96The area is 96 units<sup>2</sup>. Area =  $1.2 \times 0.9$ = 1.08**B** As 1000 mL in 1 L, 3.07 × 1000 = 3070 The area is 1.08 cm<sup>2</sup>. This means 3070 millilitres in 3.07 litres. 3 As 20 × \_\_\_ = 340, then **4** Mass = 625 – 175 <sup>5</sup>6<sup>1</sup>25  $340 \div 20 = 34 \div 2 = 17$ = 450- 175 This means the breadth is 17 cm. The mass of jam is 450 grams. 🕑 As 4.8 is close to 5, the area is close to **b** As 1 cm<sup>3</sup> = 1 mL,  $5^2 = 25$ 5000 cm<sup>3</sup> = 5000 mL = 5 L The best estimate is 25 cm<sup>2</sup>. This means 5 L in 5000 cm<sup>3</sup>. **5** As  $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$ , the area is  $\frac{1}{4}$  cm<sup>2</sup>. 10  $\times$  5  $\times$  \_\_\_\_ = 200, the missing number is 4 This means the height is 4 cm. 6 Area =  $\frac{1}{2}$  × base × height Consider each of the volumes:  $4 \times 3 \times 2 = 24$  $=\frac{1}{2}\times 8\times 6$  $5 \times 2 \times 3 = 30$  $8 \times 2 \times 1 = 16$ = 24 $6 \times 3 \times 1 = 18$ The area is 24 cm<sup>2</sup>. As the largest value is 30, the dimensions giving the greatest volume are  $5 \times 2 \times 3$ . Area =  $\frac{1}{2} \times base \times height$ **MEASUREMENT AND GEOMETRY (Real Test)**  $=\frac{1}{2}\times 17\times 10$ Area, volume and capacity Page 44 1 B 2 A 3 C 4 200 5 D 6 C 7 0.01 8 B 9 24  $=\frac{1}{2} \times 170$ 10 C 11 B 12 C 13 A 14 D 15 B 16 D = 85 The area is 85 cm<sup>2</sup>.

## ANSWERS Week 2

Check Your Answers **EXPLANATIONS 1** 750 – 300 = 450 This means that 450 mL remain in the jug. As 8 × 100 = 800, we need to multiply 15 by 8: Fuel =  $15 \times 8$ = 120The truck uses 120 litres. On the grid the rectangular rug covers 6 units<sup>2</sup>. This means the scale is 6 units<sup>2</sup> =  $12 \text{ m}^2$  $1 \text{ unit}^2 = 2 \text{ m}^2$ By counting there are 32 - 6 = 26 square units uncovered. As  $26 \times 2 = 52$ , there are 52 m<sup>2</sup> uncovered. 4 12 litres every 60 seconds means 1 litre every 5 seconds or 1000 mL every 5 seconds or 200 mL every 1 second. The rate is 200 mL/second. **5** As 12 × 2 = 24; 6 × 4 = 24; 8 × 3 = 24;  $20 \times 4 = 80 \neq 24$ . Jake's rectangle is not 20 cm  $\times$  4 cm. 6 Volume =  $10 \times 7 \times 6$  $= 10 \times 42$ = 420 The volume is 420 cm<sup>3</sup>. Area =  $0.1 \times 0.1$ = 0.01The area is 0.01 cm<sup>2</sup>. 8 Volume = 40  $\times$  20  $\times$  20  $= 16\ 000$ The volume is 16 000 cm<sup>3</sup>. As  $1 \text{ cm}^3 = 1 \text{ mL}$ , the capacity is 16 000 mL or 16 L  ${f 9}$  By counting the squares, you get 24 units<sup>2</sup>. 🛈 Volume = 3 × 2 × 4 = 24 The volume is 24 cm<sup>3</sup>. Mass =  $24 \times 3$ **.** 6.14 = 72 The mass is 72 g.

 $=\frac{1}{2} \times 12 \times 10$ = 60The area is 60 cm<sup>2</sup>. **D** Area = 10 × 6 = 60Amount =  $60 \times 200$  $= 12\ 000$ This means 12 000 grams, or 12 kg needed. **B** As 4 + 4 + 1 + 1 = 10, Cost = 70 + 70 + 28 + 28= 140 + 56= 196The cost of the paint is \$196. As there are 6.5 lots of 10 in 65, we need to multiply 6.5, or  $6\frac{1}{2}$  by 12: Time =  $6\frac{1}{2} \times 12$  $= 6 \times 12 + \frac{1}{2} \times 12$ = 72 + 6 = 78 It would take 78 seconds. As 1 kg = 1000 g, need to find how many 25s in 1000? As there are four 25s in 100, there are 40 in 1000. This means 40 m<sup>2</sup> will be covered. 66 2  $\times$  1000 gives number of mL, and then divide by 7 for the 7 glasses:  $2 \times 1000 \div 7$ SPELLING (Real Test) Common misspellings Pages 46-47 1 umbrellas 2 truly **3** writing 4 receipt **5** opposing



Answers: 1 D 2 B 3 A 4 C 5 A 6 B 7 C 8 C 9 D 10 C 11 A 12 D 13 D 14 A 15 A 16 B 17 B

**Excel** Revise in a Month Year 7 NAPLAN\*-style Tests

## WEEK 2 - DAY 1



## MEASUREMENT AND GEOMETRY Area, volume and capacity

20 mins

What is the area The jug contains 750 mL of water. Leon pours out 300 mL. How many millilitres of the shaded section? Write remain in the jug? vour answer in A 350 mL B 450 mL C 550 mL D 700 mL the box: A truck uses an average of 15 litres of fuel units<sup>2</sup>. for every 100 kilometres. At that rate, how much fuel is used by the truck in a distance O A rectangular prism has dimensions of 800 kilometres? 3 cm  $\times$  2 cm  $\times$  4 cm. The solid prism is made B 130 litres of metal, which has a mass of 3 g for every A 120 litres D 160 litres 1 cm<sup>3</sup>. What is the mass of the prism? C 150 litres **B** 60 q C 72 a **D** 84 a A 24 a **I** This is a scale drawing of a large floor. U What is the area of a triangle with a base of 12 cm and a height of 10 cm? A 30 cm<sup>2</sup> B 60 cm<sup>2</sup> C 90 cm<sup>2</sup> D 120 cm<sup>2</sup> D Charlotte's rectangular garden measures 10 metres by 6 metres. If fertiliser is applied A rectangular rug with an area of 12 m<sup>2</sup> is at the rate of 200 grams per square metre, placed on the floor. What is the area of the what amount of fertiliser is needed? remainder of the floor? **B** 2.4 kg **C** 12 kg D 24 kg A 1.2 kg  $A 6 m^2$ **B** 12 m<sup>2</sup> C 52 m<sup>2</sup> **D** 64 m<sup>2</sup> B A 4-litre tin of paint costs \$70 and a 1 L Every minute that Selena showers she uses costs \$28. If Ben requires 10 litres of paint, 12 litres of water. How many millilitres does what is the smallest amount he will pay? she use every second? Hint 2 Write your answer in the box: mL D \$280 **B** \$210 C \$220 A \$196 Jake draws a rectangle with an area of 🚇 Eli filled a 10 L bucket with water in 24 cm<sup>2</sup>. What could not be the dimensions 12 seconds. At that rate, how long would it of Jake's rectangle? take to fill a 65 L container? A 12 cm  $\times$  2 cm **B** 6 cm  $\times$  4 cm A 72 s B 73 s C 75 s D 78 s C 8 cm  $\times$  3 cm **D** 20 cm × 4 cm (1) A bag contains 1 kg of lawn seed. It is 6 Find the volume of to be applied at the rate of 25 g for each 6 cm this rectangular prism. square metre. What area can be covered? A 23 cm<sup>3</sup> **B** 40 m<sup>2</sup> C 16 m<sup>2</sup> **D** 25 m<sup>2</sup>  $A 4 m^2$ 7 cm B 210 cm<sup>3</sup> 10 cm Harry poured the contents of a 2-litre C 420 cm<sup>3</sup> bottle of soft drink into 7 glasses. What **D** 440 cm<sup>3</sup> calculation finds the amount of millilitres in What is the area of a square with side each glass if all glasses contain the same 0.1 cm? Write your answer in the box: amount? Hint 3 **B**  $7 \times 1000 \div 2$ A 2 × 100 ÷ 7 cm<sup>2</sup> **D** 2 × 1000 ÷ 7 **C**  $2 \times 7 \div 1000$ 8 A fish tank has dimensions 40 cm by 20 cm Hint 1: Estimate or use  $1000 \text{ cm}^3 = 1 \text{ litre}.$ by 20 cm. How much water does the tank Hint 2: Try different combinations of cans to make at hold? Hint 1 least 10 L. C 160 L A 1.6 L **B** 16 L D 1600 L

Hint 3: Remember, 2 L = 2000 mL.

<sup>(C)</sup> Answers and explanations on pages 202-203

**Excel** Revise in a Month Year 7 NAPLAN\*-style Tests