

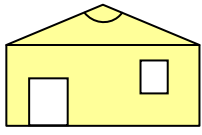
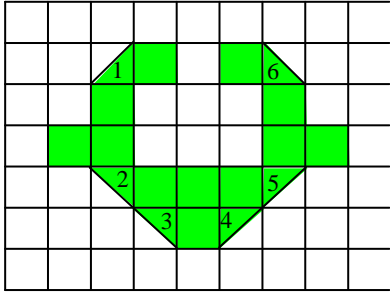
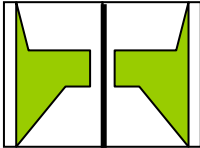
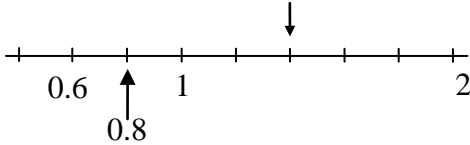
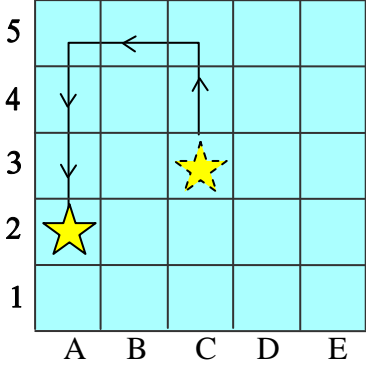


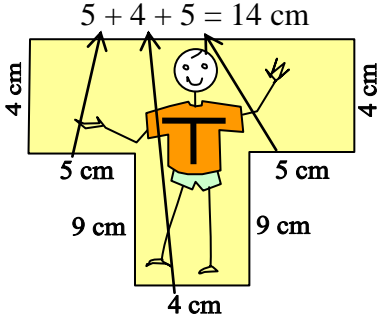
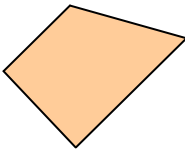
YEAR 5 – PAPER 6
NUMERACY WORKED SOLUTIONS

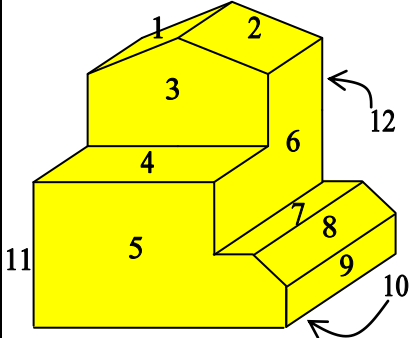
	ANSWER	EXPLANATION	AUSTRALIAN CURRICULUM REFERENCE A student can:
1	5 faces and 8 edges.	The pyramid has five faces, four triangular faces and one rectangular face on the base. Also, it has four edges on the base and another four joining the triangular faces.	connect three-dimensional objects with their nets and other two-dimensional representations. (ACMMG111)
2	42	$24 + 18 = 42$ <i>Alternatively</i> count the bows in both bags.	use efficient mental and written strategies to solve problems. (ACMNA291)
3	Unlikely	There are only 2 cards out of 8 that have two stars. As this is less than half of the cards then it is “unlikely” to get a card with two stars on it.	describe possible everyday events and order their chances of occurring. (ACMSP092)
4	16	From 3:20 pm until 3:30 pm there are 10 minutes. From 3:30 pm until 3:36 pm there are 6 minutes. Therefore, he was on the train for $10 + 6 = 16$ minutes.	interpret and use timetables. (ACMMG139)
5		The 7 coins shown add to \$5.30. An extra 20 cents is needed to make a total of \$5.50.	solve problems involving purchases and the calculation of change to the nearest five cents. (ACMNA080)
6		The time now is 4:00, and in one and a half hours time it will be 5:30.	convert between units of time. (ACMMG085)

7	20	As $32 - 28 = 4$ and $28 - 24 = 4$, each number is 4 less than the previous number, so the next number in this pattern is $24 - 4 = 20$.	describe, continue and create patterns with fractions, decimals and whole numbers resulting from addition and subtraction. (ACMNA107)
8		By comparing the apex angle of each roof it can be seen that the first roof has the largest angle.	estimate, measure and compare angles using degrees. Construct angles using a protractor. (ACMMG112)
9	15	 There are 12 complete squares units shaded and 6 half squares units shaded (which are equivalent to 3 whole square units), this means that there is a total of $12 + 3 = 15$ square units shaded.	compare objects using familiar metric units of area and volume. (ACMMG290)
10	120	There are 60 seconds in 1 minute, so in 2 minutes there are $60 \times 2 = 120$ seconds.	convert between units of time. (ACMMG085)
11	Triangular prism	Only a triangular prism has 2 triangular faces and 3 rectangular faces.	connect three-dimensional objects with their nets and other two-dimensional representations. (ACMMG111)
12	$650 + 500 + 220$	When each mass is rounded to the nearest 10 kg, we get: 649 kg is about 650 kg, 497 kg is about 500kg and 221 kg is about 220 kg. Hence, the best estimate is $650 + 500 + 220$.	use efficient mental and written strategies to solve problems. (ACMNA291)

13	9 July	From June's calendar it can be seen that the 30 th of June is Wednesday, Thursday would be 1 st July, so the first Friday in July would be the 2 nd . By adding 7 the second Friday will then be 9 July.	convert between units of time. (ACMMG085)
14	60	One orange can be cut to produce 4 quarters, so the six oranges shown can be cut to form $6 \times 4 = 24$ quarters.	count by quarters halves and thirds, including with mixed numerals. (ACMNA078)
15	12:25 pm	By inspecting each of the times that a bus reaches Kellum Street, the closest time to 1 pm is 12:56 pm. By reading up through the table it can be seen that this bus leaves Bell Street at 12:25 pm.	interpret and use timetables. (ACMMG139)
16		The shape will be flipped over the bold line. Hence, the bold line becomes the axis of symmetry for the shape and its image.	describe reflections of two-dimensional shapes. Identify line symmetries. (ACMMG114)
17	1.4	 The number between 0.6 and 1 is 0.8, so each interval is 0.2 units. Hence, the arrow is pointing to $1 + 0.2 + 0.2 = 1.4$	compare, order and represent decimals. (ACMNA105)
18	1 out of 4	Raymond has 8 cards, 2 of which match Jason's card. Hence, the chance that Jason gets a card that matches his card is 2 out of 8, which is the same as 1 out of 4.	describe probabilities using fractions, decimals and percentages. (ACMSP144)
19	\$21	The cost of the almonds is close to \$3 per kilogram. So the cost of 7 kilograms would be close to $\$3 \times 7 = \21 .	use efficient mental and written strategies to solve problems. (ACMNA291)

20	125	<p>The number of students who went on the excursion was $750 \div 6 = 125$.</p> <p>Alternatively, multiply each of the possible answers by 6 to find which of them gives 750.</p>	<p>solve problems involving division by a one digit number, including those that result in a remainder. (ACMNA101)</p>
21	4 years and 3 months	<p>William is 11 months old. Kylie is 3 years and 4 months older than William, which means that she is 3 years and 15 months old.</p> <p>This is the same as 4 years and 3 months.</p>	<p>convert between units of time. (ACMMG085)</p>
22	A2		<p>use simple scales, legends and directions to interpret information contained in basic maps. (ACMMG090)</p>
23	21	<p>As $9 - 5 = 4$ and $13 - 9 = 4$, each shape requires 4 more matches than the previous shape.</p> <p>The 4th shape will have $13 + 4 = 17$ matches and the 5th shape will have $17 + 4 = 21$ matches.</p>	<p>describe, continue and create patterns with whole numbers resulting from addition and subtraction. (ACMNA107)</p>
24	6.78	<p>Add decimals by aligning decimal points:</p> $\begin{array}{r} 6.00 \\ 0.70 + \\ \underline{0.08} \\ 6.78 \end{array}$	<p>add and subtract decimals, with and without digital technologies. (ACMNA128)</p>
25	11	<p>$36 \div 4 = 9$, so <input type="text"/> - 2 = 9 that is <input type="text"/> = 9 + 2 Hence, <input type="text"/> = 11</p>	<p>select and apply efficient mental and written strategies to solve problems involving all four operations with whole numbers. (ACMNA123)</p>

26	54 cm	 <p>The perimeter of this logo is $14 + 4 + 5 + 9 + 4 + 9 + 5 + 4 = 54$ cm.</p>	<p>calculate the perimeter and area of rectangles using familiar metric units. (ACMMG109)</p>
27	B	<p>Only B is exactly inside three of the four solids, namely the large cylinder, the large cone and the small cylinder.</p>	<p>connect three-dimensional objects with their nets and other two-dimensional representations. (ACMMG111)</p>
28	4 kg 200 g	<p>To compare the masses, we write each option in grams.</p> <p>$4.08 \text{ kg} = 4080 \text{ g}$ $4080 \text{ g} = 4080 \text{ g}$ $4.1 \text{ kg} = 4100 \text{ g}$ and $4 \text{ kg } 200 \text{ g} = 4200 \text{ g}$ Hence, 4 kg 200 g is the largest mass.</p>	<p>convert between common metric units of mass. (ACMMG136)</p>
29		<p>Only, the first shape has exactly 1 pair of parallel sides. The second shape has 2 pairs of parallel sides. The third shape has no parallel sides. The fourth shape has 4 pairs of parallel sides.</p>	<p>estimate, measure and compare angles using degrees. (ACMMG112)</p>
30	\$5.50 and \$6.00	<p>As $\frac{1}{4} \times \\$23 = \\$23 \div 4 = \\$5.75$ then, $\frac{1}{4}$ of \$23 is between \$5.50 and \$6.00.</p> <p><i>Alternatively</i> $\frac{1}{4}$ of \$1 is 25c so $\frac{1}{4}$ of \$3 is 75c. Also, $\frac{1}{4}$ of \$20 is \$5. Therefore, $\frac{1}{4}$ of \$23 is \$5.75 which is between \$5.50 and \$6.00.</p>	<p>find a simple fraction of a quantity where the result is a whole number, with and without digital technologies. (ACMNA127)</p>

31	10	<p>The total number of tokens is $18 + 12 = 30$. 30 tokens are to be shared equally between the 3 boys so each receives $30 \div 3 = 10$ tokens.</p>	<p>select and apply efficient mental and written strategies to solve problems involving all four operations with whole numbers. (ACMNA123)</p>
32	147	<p>The number of crackers given to her guests is $23 \times 6 = 138$. Cindy kept 9 for herself, so the total number of crackers is $138 + 9 = 147$ crackers.</p>	<p>select and apply efficient mental and written strategies to solve problems involving all four operations with whole numbers. (ACMNA123)</p>
33	15	<p>The number can be found by working backwards. First $20 \times 6 = 120$ Then $120 \div 8 = 15$ So the number David chose was 15. <i>Alternatively</i> multiply each number in the possible options by 8 then divide by 6 to find out which of them give 20 as an answer.</p>	<p>select and apply efficient mental and written strategies to solve problems involving all four operations with whole numbers. (ACMNA123)</p>
34	\$13	<p>3 kg is double 1.5 kg, so the cost will be $2 \times \\$6.50 = \\13.</p>	<p>solve problems involving purchases. (ACMNA080)</p>
35	\$72	<p>Kevin saves \$24 every 2 weeks. As 6 weeks is 3 lots of 2 weeks, then if he keeps saving in this way he could save $3 \times \\$24 = \\72 in 6 weeks.</p>	<p>develop efficient mental and written for multiplication and for division where there is no remainder. (ACMNA076)</p>
36	12		<p>connect three-dimensional objects with their nets and other two-dimensional representations. (ACMMG111)</p>

37	7	<p>The lockers with even numbers are 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22 and 24.</p> <p>The lockers with numbers that are factors of 18 are 1, 2, 3, 6, 9, 18.</p> <p>The lockers with numbers that are factors of 21 are 1, 3, 7, 21.</p> <p>By crossing these numbers out we can see that the lockers still left are 5, 11, 13, 15, 17, 19 and 23.</p> <p>Hence, there are only 7 lockers available for Wendy.</p>	<p>identify and describe factors and multiples of whole numbers and use them to solve problems. (ACMNA098)</p>
38	208	$\frac{1}{8} + \frac{5}{8} = \frac{6}{8} = \frac{3}{4}$ <p>This means that $\frac{1}{4}$ are carnations.</p> <p>$\frac{1}{4}$ of the 832 flowers is $832 \div 4 = 208$ carnations.</p> <p><i>Alternatively</i></p> <p>$\frac{1}{8}$ of 832 = 104 and $\frac{5}{8}$ of 832 = 520.</p> <p>Hence, there are $832 - 104 - 520 = 208$ carnations.</p>	<p>find a simple fraction of a quantity where the result is a whole number. (ACMNA127)</p>
39	110	<p>As the number of burgers sold on Friday is 48 less than Thursday, then by subtracting this number from the total we can find how many burgers would have been sold each day if on both days equal number of burgers was sold.</p> <p>Therefore, this total would be $268 - 48 = 220$ burgers.</p> <p>This means $220 \div 2 = 110$ burgers would be sold each day.</p> <p>Hence, 110 burgers were sold on Friday.</p>	<p>use efficient mental and written strategies to solve problems . (ACMNA291)</p>

40	1875	<p>If the farmer sold $\frac{1}{3}$ on Monday, there must have been $\frac{2}{3}$ left, so 1250 mangoes must be equivalent to $\frac{2}{3}$ of the total.</p> <p>Then $\frac{1}{3}$ of the total must be</p> $1250 \div 2 = 625 \text{ mangoes.}$ <p>Hence, the total number of mangoes sold by the farmer is</p> $625 \times 3 = 1875 \text{ mangoes.}$	<p>find a simple fraction of a quantity where the result is a whole number.</p> <p>(ACMNA127)</p>
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