

32406 Pilot Marking Scheme

Term 2 CAA 1, 2022

Question #	Answer/Judgement	Outcome		
		1	2	3
1a	Grade 6 (third option from left)			
1b	744 (unit already included)			
1c	Agrees with the headline and supports their view using the number information provided. Must include calculation 250×5 million = 1 250 million and recognise that 1 250 million is equal to 1.25 billion or over 1 billion. Numbers may be written with zeros. Allow minor discrepancies with number of zeros if conclusion is correct.			
2a	12 (unit already included)			
2b	Answer could be either Blanco or Wit but must be supported by weight and/or cost information. Likely answers include: <ul style="list-style-type: none"> Blanco at \$1.40 is cheapest way to get 90g needed. Wit at $3.60/2.9 = 1.24$ so \$1.24 for 100g is cheaper rate. This might include note about buying more buttons allows for further consumption. 			
2c	Multiply each amount of ingredients by at least 2.5 (third option down)			
3a	9 hours 45 minutes (units already included)			
3b	Accept % in the range 30-40			
3c	Either Yes or No is acceptable if supported by referring to the number of people in the sample getting between 8 and 10 hours sleep and uses proportion to comment on claim. Examples might be: <ul style="list-style-type: none"> About 520 students out of 946 are in the range 8 to 10 hours sleep, which is more than one half (may calculate 55%). Disagree with the claim as it is exaggerated. Includes all students getting 8 or more hours sleep, about 580 students. That is well over one half or 50% so rejects the claim. Similar calculations to first answer but accepts the claim as 55% is close enough to one half. 			
4a	Yes or no is accepted if supported with working that uses the admission prices. Examples include: <ul style="list-style-type: none"> Yes. A family of 2 adults and 1 child would normally pay \$82.50 (\$72 for 2 adults plus \$10.50 for 1 child) so they will save \$2.50. A family of 2 or 3 children will save more (\$12.50 and \$20.50). No. Only a family of 2 adults and 3 children will save over \$20. ($\\$103.50 - \\$80 = \\23.50). No. A family with only 1 adult will not save money since $\\$36.00 + \\$31.50 < \\$80.00$. 			
4b	Acceptable options include: <ul style="list-style-type: none"> Buy two notebooks using the half off deal and the third at normal price ($\\$2.99 + \\$1.50 + \\$2.99 = \\7.48) which is cheaper than 3 notebooks at \$2.99 each. Buy four notebooks using half off deal (cost \$8.97 or \$8.98) since not much dearer than other options and get an extra notebook. Buy three notebooks at normal price ($3 \times \\$2.99 = \\8.97) which is same price as above but don't need the other notebook. 			
4c	More than 25% off (Option 4)			

Question #	Answer/Judgement	Outcome		
		1	2	3
5a	3½ (fourth option down)			
5b	93.25			
5c	<p>Agrees or disagrees with the presenter's estimation and argument is supported by measurements from the diagram and/or angle sense. Examples might be:</p> <ul style="list-style-type: none"> • Agree. A drop of 66 m over 66 m is 45° so a drop of 64-10.55 = 53.45m must be close to 40°. (Accept 66 m used instead of 53.45 m) • Agree. Angle between the horizontal and vertical is 90°. The side lengths suggest the angle is about half of 90° so 45°. 40° is reasonable. • Disagree. Same calculations but concludes the angle is close to 45° and 40° is not close enough. <p>Trigonometry is not expected but is marked correct if attempted:</p> <ul style="list-style-type: none"> • $Tan\theta = \frac{53.45}{66} = 0.81, Tan^{-1}(0.81) = 39^\circ.$ 			
6a	Every 50 minutes (3 rd option down)			
6b	79 (units already included)			
6c	<p>Answer supported by information from graph. Examples might be:</p> <ul style="list-style-type: none"> • Agree. -1 and 0 minutes indicate early or on time. 15 times are -1 or 0 out of a total of 31 times and 15/31 is close to one half. • Disagree. Same working but says 15/31 is not equal to one half. 			
7a	\$2.03 (2 nd option down)			
7b	185 but 180 -190 accepted			
7c	<p>Any approximation to a correct graph accepted (Tools are quite unfriendly). Explanation for use of line required, that leads to an answer in the range \$3.00 - \$3.40 for a weight of 1.2 kg. Example might be:</p> <ul style="list-style-type: none"> • Find 1200g on bottom axis, draw a vertical line to the line then trace across to the price axis. Read off the price. 			
8a	\$350 (3 rd option down)			
8b	First, second and last statements (2 or 3 correct, no incorrect statements).			
8c	<p>Answer about the claim uses information from both graphs to support it. Examples might be:</p> <ul style="list-style-type: none"> • Carla's claim makes sense. Aquaculture has the highest number of claims for time off of all the areas and lifting, carrying and moving objects are part of the work of her Dad, who works in aquaculture. 			
9a	North-West (4 th option down)			
9b	29 280 (units already given)			
9c	<p>Explanation includes 11 days x 24 hours in a day = 264 hours and division (possibly multiplication). Options for calculation are:</p> <ul style="list-style-type: none"> • $11\ 680 \div 11 \approx 1061$ km per day. $1061 \div 24 \approx 44$ km/hr. • $11\ 680 \div 264 \approx 44$ km per day 			
10a	A			
10b	6 packs (ideally) though 5 packs accepted			
10c	<p>2.2 kW heat pump. Explanation uses provided information. Both the formula and the table suggest a 2.2 kW heat pump. Formula: $0.12 \times 3.1 \times 5.5 = 2.046$ kW so buy 2.2 kW.</p>			

	Table: $3.1 \times 5.5 = 17.05 \text{ m}^2$. Round up to 20 m^2 and buy 2.2 kW.			
--	--	--	--	--