

# Simultaneous Equations

## November 2023 Paper 2

Question	Answer	Mark	Mark scheme	Additional guidance
14	6.95 <b>or</b> (2kg flour =) 2.70 <b>and</b> (5 kg sugar =) 4.25	P1  P1  P1  A1	for process to find the cost of 1kg of flour, eg $4.05 \div 3 (= 1.35)$  for process to work with cost of sugar, eg $11.85 - 5 \times "1.35" (= 5.10)$  for process to find cost for 5kg of sugar, eg $"5.10" \div 6 \times 5 (= 4.25)$  for 6.95 <b>or</b> (2kg flour =) 2.70 <b>and</b> (5 kg sugar =) 4.25	May be implied by (2 kg =) 2.70  May be implied by (1 kg =) 0.85 oe

# November 2021 Paper 1

Question	Answer	Mark	Mark scheme	Additional guidance
14	3.3(0)	P1  P1  <b>OR</b>  P1  A1	<p>for a process to find cost of 1 kg of carrots, eg <math>1.80 \div 3 (= 0.60)</math></p> <p>for a start to a process to find cost of 1kg of potatoes, eg <math>3.45 - 2 \times "0.60" (= 2.25)</math> <b>or</b> <math>(1.80 + 3.45) \div 5 (= 1.05)</math></p> <p><b>OR</b></p> <p>for a process to find the cost of 4 kg of carrots, eg <math>"0.60" \times 4 (= 2.40)</math></p> <p>(dep on P2) for a complete process to find the cost of 4 kg of carrots <b>and</b> the cost of 2 kg of potatoes,</p> <p>eg <math>"0.60" \times 4 (= 2.40)</math> <b>and</b> <math>("2.25" \div 5) \times 2 (= 0.90)</math>  <b>or</b> <math>"0.60" \times 4 (= 2.40)</math> <b>and</b> <math>("1.05 - "0.60") \times 2 (= 0.90)</math></p> <p>cao</p>	<p>Could work in £ or p for P marks Condone incorrect money notation</p> <p>1 kg of potatoes = (£)0.45 or 45p</p> <p>Award 0 marks for a correct answer with no supportive working.</p>

November 2022 Paper 3

Question	Answer	Mark	Mark scheme		Additional guidance
15	Yes (supported)	P1	for finding the cost of 1 kg of carrots eg $1.74 \div 3 (= 0.58)$	for finding the cost of 1 kg onions eg $2.(00) \div 4 (= 0.5)$	for all P marks can work in pence or in £
		P1	for isolating the cost of 2.5 kg of onions eg $2.36 - (2 \times "0.58") (= 1.2(0))$	for finding the cost of 2.5 kg of onions eg $2.5 \times "0.5" (= 1.25)$	
		P1	for the cost of 1 kg of onions <b>or</b> 0.5 kg of onions, eg $"1.20" \div 2.5 (= 0.48)$ <b>or</b> $"1.20" \div 5 (= 0.24)$ <b>or</b> for $4 \div 2.5 (= 1.6)$	for finding the cost of 2 kg of carrots eg $2.36 - "1.25" (= 1.11)$	
		P1	for the cost of 4 kg of onions, eg $4 \times "0.48"$ <b>or</b> $8 \times "0.24" (= 1.92)$ <b>or</b> for $"1.6" \times "1.2(0)"$	for finding the cost of 3 kg of carrots eg $"1.11" \div 2 \times 3 (= 1.665)$ <i>for comparison with 1.74</i>	
		C1	Yes with correct figures shown eg 192 <b>or</b> 1.92 <b>or</b> "has 8p left" <b>or</b> 166.5		
					Allow comparison of mixed units eg 192 with £2

# November 2024 Paper 1

Question	Answer	Mark	Mark scheme	Additional guidance
16	15.5(0)	<p>P1</p> <p>P1</p> <p>P1</p> <p>P1</p> <p>A1</p>	<p>for a correct process to find the cost of some teas only <b>or</b> some coffees only  eg (2 teas <math>\Rightarrow</math>) <math>8.50 - 4.50 (= 4)</math>  <b>or</b> (2 coffees <math>\Rightarrow</math>) <math>3 \times 4.50 - 8.50 (= 5)</math></p> <p>for a process to find the cost of one tea or four teas,  eg (1 tea <math>\Rightarrow</math>) <math>"4" \div 2 (= 2)</math> <b>or</b> (4 teas <math>\Rightarrow</math>) <math>"4" \times 2 (= 8)</math></p> <p>for a process to find cost of one coffee or three coffees,  eg (1 coffee <math>\Rightarrow</math>) <math>4.50 - "2" (= 2.50)</math> <b>or</b> <math>8.50 - "2" \times 3 (= 2.50)</math>  <b>or</b> <math>1.5 \times "5" (= 7.50)</math></p> <p>for a complete process,  eg <math>"2" \times 4 + "2.50" \times 3</math></p> <p>cao</p>	<p>Use of simultaneous equations – marks awarded at the stages shown in the scheme.</p>

## June 2022 Paper 2

Question	Answer	Mark	Mark scheme	Additional guidance
28	$x = 6.5,$ $y = -2.75$	M1	for a correct method to eliminate either $x$ or $y$ or method leading to substitution	(condone one arithmetic error)
		M1	(dep) for substituting found value in one of the equations <b>OR</b> correct method after starting again	(condone one arithmetic error)
		A1	for $x = 6.5, y = -2.75$ oe	

## November 2023 Paper 2

Question	Answer	Mark	Mark scheme	Additional guidance
30	$x = -2$ $y = 1.5$	M1  M1  A1	for correct method to eliminate either $x$ or $y$ or a method leading to substitution  (dep M1) for substituting found value in one of the equations <b>or</b> correct method after starting again  for $x = -2$ and $y = 1.5$ oe	condone one arithmetic error  condone one arithmetic error