

Practice Tests Set 21 – 2F-3F

Q	Working	Answer	Mark	Notes
1	$200 - 37 - 25 - 42 (= 96)$		3	M1
	$\frac{96}{200}$			M1ft or for a correct fraction, but not in lowest terms or for 0.48 or 48%
		$\frac{12}{25}$		A1 cao
				<i>Total 3 marks</i>

Q	Working	Answer	Mark	Notes	
2	$6 \times 220 (= 1320)$ or $220 + 220 + 220 + 220 + 220 + 220 (= 1320)$ oe		4	M1 Allow a correct build-up method	
	$5000 - "1320" (= 3680)$ or $5000 - ("220 + 220 + 220 + 220 + 220 + 220") (= 3680)$ oe or $5000 - 140 (= 4860)$ or $5000 - ("1320" + \text{some multiples of } 295)$ oe			M1 Allow a correct build-up method	
	$("4860" - "1320") \div 295$ or $"3540" \div 295$ or $("3680" - 140) \div 295$			M1 Allow a correct build-up method	M1 A1 for $3680 \div 295$ $(= 12.4(745..))$ and 12
		12		A1	
				Total 4 marks	

Q	Working	Answer	Mark	Notes
3	$1342 \div 11(=122)$ or $125 \times 11 (=1375)$		3	M1
	$125 - 122 (=3)$ or $1375 - 1342(=33)$			M1
		3 euros or 33 Swedish Krona		A1 Answer must have correct units which may be shortened eg € or SK
				<i>Total 3 marks</i>

Q	Working	Answer	Mark	Notes
4	$\frac{579}{490}$ or 1.18163.....		2	M1
		70.07163265.....		A1 at least 5 dp truncated or rounded
				<i>Total 2 marks</i>

Q	Working	Answer	Mark	Notes
5	$0.85 \times 1000 (= 850)$ or $360 \div 1000 (= 0.36)$		4	M1 for a correct conversion of kg to g or g to kg
	$360 \div 15 (= 24)$ or " 0.36 " $\div 15 (= 0.024)$ or " 850 " $\div 38 (= 22.368\dots)$ or $0.85 \div 38 (=$ $0.022368\dots)$ or " 850 " $\div 360 (= \frac{85}{36} = 2.3(6\dots))$ or $(\frac{38}{15} =)2\frac{8}{15} (= 2.5\dots)$			M1 oe
	$360 \div 15 (= 24)$ and " 850 " $\div 38 (= 22.368\dots)$ or " 0.36 " $\div 15 (= 0.024)$ and $0.85 \div 38 (= 0.022368\dots)$ or $360 \div 15 (= 24)$ and " 850 " $\div 24 (= 35.4\dots)$ or " 0.36 " $\div 15 (= 0.024)$ and $0.85 \div '0.024' (= 35.4\dots)$ or " 850 " $\div 360 (= \frac{85}{36} = 2.3(6\dots))$ and " $2.3(6\dots)$ " $\times 15 (=$ $35.4)$ or $(\frac{38}{15} =)2\frac{8}{15} (= 2.5\dots)$ and " $2\frac{8}{15}$ " $\times "0.36" (= 0.912)$ or $(\frac{38}{15} =)2\frac{8}{15} (= 2.5\dots)$ and " $2\frac{8}{15}$ " $\times 360 (= 912)$ or $360 \div 15 (= 24)$ and " 24 " $\times 38 (= 912)$ or " 0.36 " $\div 15 (= 0.024)$ and " 0.024 " $\times 38 (= 0.912)$			M1 calculations that compare the same amounts e.g. How much flour is needed for recipe and how much Johan has for each cake or Working out how many cakes Johann can make with his flour to compare with 38 cakes or Working out how much flour is needed to enable comparison with given figure of 0.85 kg

		No and correct figures seen		A1 No or statement that clearly states that there is not enough flour to make 38 cakes and correct figures - figures may be rounded in working and produce slightly different results which are acceptable eg “2.3(6...)” × 15 allow 34 – 36 Must compare 912 with 850 or implied by 62 seen
				Total 4 marks

Q	Working	Answer	Mark	Notes
5 ALT	$0.85 \times 1000 (= 850)$		4	M1
	E.g. $15 + 15 (= 30)$ or $15 \div 2 (= 7(.5)$ or 8)			M1
	E.g. $15 + 15 + 7(.5) (= 37(.5))$ or $15 + 15 + 8 (= 38)$			M1
		No and 37(.5) or 38 seen		A1 oe No and 37(.5) or 38 seen
				Total 4 marks

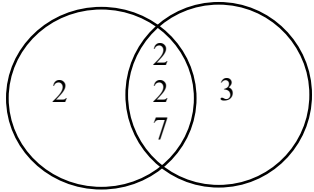
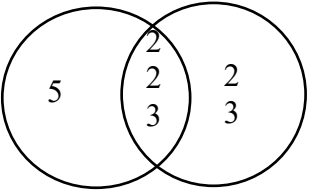
Q	Working	Answer	Mark	Notes																				
5 ALT	$0.85 \times 1000 (= 850)$		4	M1																				
	$360 \div 15 (= 24)$			M1																				
	E.g. for a build up method <table border="1" style="margin-left: auto; margin-right: auto;"> <tbody> <tr><td>(360)</td><td>15</td></tr> <tr><td>(360)</td><td>15</td></tr> <tr><td>(24)</td><td>1</td></tr> <tr><td>(24)</td><td>1</td></tr> <tr><td>(24)</td><td>1</td></tr> <tr><td>(24)</td><td>1</td></tr> <tr><td>(24)</td><td>1</td></tr> <tr><td>(24)</td><td>1</td></tr> <tr><td>(24)</td><td>1</td></tr> <tr><td>(864)</td><td>36</td></tr> </tbody> </table>	(360)	15	(360)	15	(24)	1	(24)	1	(24)	1	(24)	1	(24)	1	(24)	1	(24)	1	(864)	36			M1
(360)	15																							
(360)	15																							
(24)	1																							
(24)	1																							
(24)	1																							
(24)	1																							
(24)	1																							
(24)	1																							
(24)	1																							
(864)	36																							
		No and 36 seen		A1 oe No and 36 seen																				
				Total 4 marks																				

Q	Working	Answer	Mark	Notes
6 (a)(i)		132	1	B1 cao
(ii)		correct reason	1	B1 for <u>angles</u> on a straight <u>line</u> add up to 180 Accept angles on a straight <u>line</u> add up to <u>180</u>
(b)	$180 \div 3 (= 60)$		3	M1 or for an angle of 60 in the triangle
	$360 - (105 + 125 + "60")$			M1 for a correct complete method
		70		A1
				Total 5 marks

Q	Working	Answer	Mark	Notes
7	200 ml written as 0.2 l or 3.5 l written as 3500 ml		4	B1 Correct use of compatible units
	$3.5 - 3 \times "0.2" (=2.9)$ or $"3500" - 3 \times 200 (=2900)$			M1
	$\frac{"2.9"}{4}$ or $\frac{"2900"}{4}$			M1 or for an answer of 0.725
		725		A1
				<i>Total 4 marks</i>

Q	Working	Answer	Mark	Notes
8	$12 \times 1.40 + 12 \times 0.5 \times 1.40 (=25.20)$ oe		4	M1
	$0.8 \times 7.20 \times 4 (=23.04)$ oe			M1
	$12 \times 1.40 + 12 \times 0.5 \times 1.40 - 0.8 \times 7.20 \times 4$			M1
		2.16		A1
				<i>Total 4 marks</i>

Q	Working	Answer	Mark	Notes
9 (a)	$\frac{10.1}{39.8} \times 100$ oe or $\frac{10\ 100\ 000}{39\ 800\ 000} \times 100$		2	M1
		25.4		A1 awrt
(b)	$\frac{21}{100} \times 59.9 (= 12.579)$ oe or $\frac{21}{100} \times 59\ 900\ 000 (= 12\ 579\ 000)$ oe		3	M1
	$59.9 + "12.579" (= 72.479)$ or $59\ 900\ 000 + 12\ 579\ 000 (= 72\ 479\ 000)$			M1
		72		A1 Accept 72 – 73 or 72 000 000 – 73 000 000
				Total 5 marks

Q	Working	Answer	Mark	Notes															
10 (a)	<p>1, 2, 4, 7, 8, 14, 28, 56 and 1, 2, 3, 4, 6, 7, 12, 14, 21, 28, 42, 84</p> <p>or 2 2 2 7 and 2 2 3 7</p> <p>or</p>  <table border="1" data-bbox="824 343 1048 454"> <tr> <td colspan="3">e.g.</td> </tr> <tr> <td>28</td> <td>56</td> <td>84</td> </tr> <tr> <td></td> <td>2</td> <td>3</td> </tr> </table>	e.g.			28	56	84		2	3		2	<p>M1 for any correct valid method and no errors e.g.</p> <p>for starting to list at least four different factors of each number and no errors</p> <p>or 2 2 2 7 and 2 2 3 7 seen (may be in a factor tree or a ladder diagram and ignore 1)</p> <p>or a fully correct Venn diagram</p> <p>or other clear method, e.g, table</p>						
e.g.																			
28	56	84																	
	2	3																	
		28		A1 dep M1 accept $2^2 \times 7$ oe															
(b)	<p>60, 120, 180, 240... and 72, 144, 216, 288...</p> <p>or 2 2 3 5 and 2 2 2 3 3</p> <p>or</p>  <table border="1" data-bbox="824 767 1048 943"> <tr> <td>2</td> <td>60</td> <td>72</td> </tr> <tr> <td>2</td> <td>30</td> <td>36</td> </tr> <tr> <td>3</td> <td>15</td> <td>18</td> </tr> <tr> <td>2</td> <td>5</td> <td>6</td> </tr> <tr> <td></td> <td></td> <td>3</td> </tr> </table> <p>or $\frac{60 \times 72}{12}$ or 2, 2, 2, 3, 3, 5 oe</p>	2	60	72	2	30	36	3	15	18	2	5	6			3		2	<p>M1 for any correct valid method and no errors e.g.</p> <p>for starting to list at least four multiples of each number</p> <p>or 2 2 3 5 and 2 2 2 3 3 seen (may be in a factor tree or a ladder diagram and ignore 1)</p> <p>or a fully correct Venn diagram</p> <p>or other clear method, e.g, table</p>
2	60	72																	
2	30	36																	
3	15	18																	
2	5	6																	
		3																	
		360		A1 dep M1 accept $2^3 \times 3^2 \times 5$ oe															
Total 4 marks																			

Q	Working	Answer	Mark	Notes
11	$300 \div (7 + 5 + 3) (= 20)$		5	M1
	$\frac{2}{5} \times (7 \times "20") (= 56)$			M1
	$0.36 \times (5 \times "20") (= 36)$			M1
	$\frac{"56" + "36"}{300}$			M1 or any correct fraction that isn't simplified or 30.66..% or 0.3066...
		$\frac{23}{75}$		A1
				Total 5 marks

Q	Working	Answer	Mark	Notes
12 (a)	$(0 \times 6) + (1 \times 5) + (2 \times 4) + (3 \times 7) + (4 \times 3) (= 46)$ or $0 + 5 + 8 + 21 + 12 (= 46)$		3	M1 for at least 4 products added or intention to add (need not be evaluated)
	$'46' \div 25$			M1 dep on M1
		1.84		A1 SC B1 for answer only of 2.08 oe
(b)		0.61	1	B1 oe 61% or $\frac{61}{100}$ oe
				Total 4 marks

Q	Working	Answer	Mark	Notes
13	For use of 5 hrs 24 mins = 5.4 hrs or 324 mins		3	B1
	3980 ÷ 5.4 or			M1 For use of distance ÷ speed (allow use of 5.24 for this mark)
		737		A1 awrt 737
				Total 3 marks

Q	Working	Answer	Mark	Notes
14	50 000 × 1.013 (=50 650) oe		3	M1 or an answer of 52 600
	“50 650” × 1.013 (=51 308.45) “51 308.45” × 1.013 (=51 975.45...) “51 975.45...” × 1.013			M1
		52 651		A1 awrt 52 651
				Total 3 marks

Q	Working	Answer	Mark	Notes
15	48 ÷ 4 (=12)		4	M1 could be on diagram
	30 – “48 ÷ 4” (= 18) or 9			M1 allow 9 on correct side of the triangle on the diagram
	3 × “18” + “12” or 6 × “18 ÷ 2” + “12” or “54” + “12”			M1 for a complete correct method
		66		A1
				Total 4 marks

Q	Working	Answer	Mark	Notes
16	$1 - (0.26 + 0.18) (= 0.56)$ oe or 0.28 oe or $x + x = 1 - (0.26 + 0.18)$ oe		4	M1 0.28 oe may be seen in the table
	$45 \div 0.18 (= 250)$ oe or $\frac{45}{18} (= 2.5)$ oe $\frac{"0.56"}{2} \div 0.18 \left(= \frac{14}{9} = 1.55\dots \right)$ oe or $\frac{"56"}{2} \div 18 \left(= \frac{14}{9} = 1.55\dots \right)$			M1
	$"250" \times \frac{"0.56"}{2}$ oe or $2.5 \times \frac{"56"}{2}$ oe or $"250" \times "0.28"$ oe or $"0.28" \div 0.18 \times 45$ oe or $\frac{14}{9} \times 45$ oe or $"28" \div 18 \times 45$ oe or $\frac{45}{18} \times "28"$ oe			M1
		70		A1 ($\frac{70}{250}$ scores M3A0)
				Total 4 marks

Q	Working	Answer	Mark	Notes
17	$2 \times \pi \times 6.5$ or $\pi \times 13$		2	M1
		40.8		A1 40.8 – 40.9
				Total 2 marks

Q	Working	Answer	Mark	Notes
18	$\cos 42 = \frac{x}{9.5}$ or $9.5^2 - (9.5 \sin 42)^2$ or $\tan 42 = \frac{9.5 \sin 42}{x}$		3	M1 a correct trig statement for x
	$(x =) 9.5 \cos 42$ or $(x =) \sqrt{9.5^2 - (9.5 \sin 42)^2}$ or $(x =) \frac{9.5 \sin 42}{\tan 42}$			M1 a fully correct method to find x
		7.06		A1 awrt 7.06
				Total 3 marks

Q	Working	Answer	Mark	Notes
19			3	M1 For one of $\times 1000$, $\div 60$, $\div 60$ or for use of 3600
	$\frac{81 \times 1000}{60 \times 60}$			M1 For a fully correct method
		22.5		A1
				Total 3 marks

Q	Working	Answer	Mark	Notes
20	$7 \times 2.7 (=18.9)$ or $4 \times 3.3 (=13.2)$		3	M1
	$\frac{7 \times 2.7 - 4 \times 3.3}{3}$ or $\frac{18.9 - 13.2}{3}$ or $\frac{5.7}{3}$			M1
		1.9		A1
				Total 3 marks

Q	Working	Answer	Mark	Notes
21	$7x + 3x + 8x = 360$ oe		4	M1
	$(x =) 360 \div 18 (=20)$			M1
	$360 \div (180 - 7 \times \text{"20"})$ oe or $360 \div (180 - \text{"140"})$ $\frac{(n-2) \times 180}{n} = 7 \times \text{"20"}$ oe or $360 \div 40$			M1 for $360 \div$ exterior angle
		9		A1
				Total 4 marks

Q	Working	Answer	Mark	Notes
22	$28 \times 12 (=336)$		4	M1 For a correct method to find the area of the rectangle (may be seen as part calculation)
	$28 \times 12 + 0.5 \times (28 - 5 - 5 + CD) \times (20 - 12) = 434$ oe eg $0.5 \times (18 + CD) \times 8 = 434 - 336$			M1 A correct equation involving CD
	Eg “288” + $16CD =$ “196”			M1 A correct simplified (no fractions or brackets) equation for CD
		6.5		A1
				Total 4 marks

Qn	Max score	Mean %	Average score of candidates achieving grade:						
			ALL	5	4	3	2	1	U
1	3	93	2.46	2.89	2.78	2.56	1.99	1.25	0.55
2	4	92	3.27	3.88	3.68	3.32	2.81	1.83	0.57
3	3	91	2.32	2.88	2.74	2.41	1.74	0.71	0.15
4	2	89	1.61	1.86	1.77	1.66	1.37	0.93	0.40
5	4	83	2.67	3.81	3.30	2.58	1.46	0.59	0.11
6	5	71	2.88	4.30	3.53	2.57	1.55	0.79	0.28
7	4	68	2.20	3.29	2.73	1.99	1.14	0.34	0.05
8	4	65	2.03	3.28	2.61	1.62	0.84	0.23	0.07
9	5	57	2.21	3.82	2.85	1.67	0.82	0.22	0.05
10	4	57	1.89	2.91	2.28	1.68	1.06	0.41	0.10
11	5	52	1.93	4.15	2.59	0.81	0.17	0.04	0.00
12	4	51	1.65	2.87	2.04	1.30	0.66	0.21	0.07
13	3	45	1.16	2.04	1.35	0.91	0.51	0.17	0.05
14	3	41	1.03	1.92	1.24	0.76	0.32	0.11	0.01
15	4	41	1.32	2.69	1.65	0.78	0.28	0.11	0.05
16	4	41	1.37	2.75	1.64	0.86	0.40	0.13	0.03
17	2	35	0.58	1.26	0.69	0.32	0.09	0.04	0.02
18	3	32	0.80	1.86	0.95	0.34	0.09	0.00	0.00
19	3	28	0.74	1.52	0.85	0.45	0.20	0.08	0.04
20	3	18	0.51	1.28	0.53	0.20	0.07	0.06	0.01
21	4	16	0.68	1.86	0.63	0.24	0.07	0.05	0.01
22	4	13	0.66	2.04	0.53	0.11	0.05	0.02	0.01
	80	45	35.97	59.16	46.96	32.14	19.69	9.32	2.63

Suggested grade boundaries

Grade	5	4	3	2	1
Mark	53	40	26	15	6