

Level 2 Test – Knowledge

Name

60 minutes Non-calculator Scribbling paper allowed

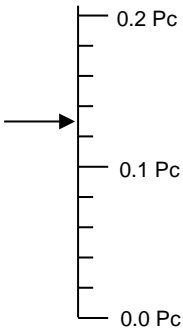
Put marks or ticks in the right column. Multiply total by 1.41 (round up) to get a score /52

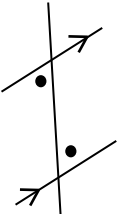
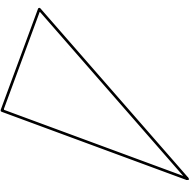
Score: /37 $\times 1.41$ = /52

Number		
Q1	In a sale, everything is 30% off. What will a \$25 bracelet be reduced to?	/1
Q2	Pears are \$6 per kilo. How many kilos could you buy for \$21?	/1
Q3	A car does 90 km on 6 L of fuel. How far will it go on 14 L?	/1
Q4	A club has 24 footballers and 40 cricketers. What is the ratio of footballers to cricketers in simplest form?	/1
Q5	Find $40 \div 0.02$.	/1
Q6	What is $-11 - -2$?	/1
Q7	$2\frac{2}{5} \times \frac{5}{6}$ in simplest form.	/1
Q8	$2 + 5 \times -3 =$	/1
Q9	$3^4 =$	/1

Algebra														
Q10	This is the price for various sizes of ice cream. <table border="1" data-bbox="279 1686 571 1955"><thead><tr><th>Size (L)</th><th>Price (\$)</th></tr></thead><tbody><tr><td>0.5</td><td>3.5</td></tr><tr><td>1</td><td>5.5</td></tr><tr><td>2</td><td>8</td></tr><tr><td>4</td><td>14</td></tr><tr><td>6</td><td>12</td></tr></tbody></table> Express this relation as a graph.	Size (L)	Price (\$)	0.5	3.5	1	5.5	2	8	4	14	6	12	/2
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Q11	Write and solve an equation to answer this question. Show working. Maggie has 65 caterpillars. If she stole half of Katie's caterpillars and another 20 caterpillars from Doug, she would then have 150. How many does Katie have?	/2
Q12	Solve $\frac{2x}{5} - 11 = 21$, showing working.	/2
Q13	Solve $3x - 1 + 4(5 - x) = 12$, showing working.	/2

Measurement																																																																		
Q14	What is 7:35 pm in 24-hour time?	/1																																																																
Q15	What is the time and day 58 h 20 min after 8:45 pm Saturday?	/1																																																																
Q16	<p>Flights Sydney to Perth</p> <table border="1"> <thead> <tr> <th>Depart</th> <th>Arrive</th> <th>Flight Number</th> <th>Days</th> </tr> </thead> <tbody> <tr> <td>6:20 am</td> <td>8:15 am</td> <td>Qantas 565</td> <td>M <u>Tu</u> W <u>Th</u> F</td> </tr> <tr> <td>7:15 am</td> <td>9:20 am</td> <td>Virgin Australia 551</td> <td>M <u>Tu</u> W <u>Th</u> F</td> </tr> <tr> <td>8:25 am</td> <td>10:20 am</td> <td>Qantas 575</td> <td>Su M <u>Tu</u> W <u>Th</u> F Sa</td> </tr> <tr> <td>9:35 am</td> <td>11:40 am</td> <td>Virgin Australia 555</td> <td>Su M <u>Tu</u> W <u>Th</u> F Sa</td> </tr> <tr> <td>10:25 am</td> <td>12:20 pm</td> <td>Qantas 581</td> <td>Su M <u>Tu</u> W <u>Th</u> F Sa</td> </tr> <tr> <td>11:55 am</td> <td>1:50 pm</td> <td>Qantas 567</td> <td>Su</td> </tr> <tr> <td>1:40 pm</td> <td>3:35 pm</td> <td>Qantas 577</td> <td>Su M <u>Tu</u> W <u>Th</u> F Sa</td> </tr> <tr> <td>1:55 pm</td> <td>4:00 pm</td> <td>Virgin Australia 559</td> <td>Su M <u>Tu</u> W <u>Th</u> F Sa</td> </tr> <tr> <td>4:20 pm</td> <td>6:25 pm</td> <td>Virgin Australia 563</td> <td>Su</td> </tr> <tr> <td>4:55 pm</td> <td>6:50 pm</td> <td>Qantas 569</td> <td>Su M <u>Tu</u> W <u>Th</u> F Sa</td> </tr> <tr> <td>5:40 pm</td> <td>7:35 pm</td> <td>Qantas 571</td> <td>Su M <u>Tu</u> W <u>Th</u> F Sa</td> </tr> <tr> <td>7:00 pm</td> <td>9:05 pm</td> <td>Virgin Australia 569</td> <td>Su M <u>Tu</u> W <u>Th</u> F Sa</td> </tr> <tr> <td>7:55 pm</td> <td>9:50 pm</td> <td>Qantas 583</td> <td>Su M <u>Tu</u> W <u>Th</u> F Sa</td> </tr> <tr> <td>8:05 pm</td> <td>10:10 pm</td> <td>Jetstar 988</td> <td>Su M <u>W</u> <u>Th</u> F Sa</td> </tr> <tr> <td>9:10 pm</td> <td>11:15 pm</td> <td>Tigerair 761</td> <td>Su M <u>Tu</u> W <u>Th</u> F</td> </tr> </tbody> </table> <p>How many flights leave Sydney for Perth after 5 pm on a Tuesday?</p>	Depart	Arrive	Flight Number	Days	6:20 am	8:15 am	Qantas 565	M <u>Tu</u> W <u>Th</u> F	7:15 am	9:20 am	Virgin Australia 551	M <u>Tu</u> W <u>Th</u> F	8:25 am	10:20 am	Qantas 575	Su M <u>Tu</u> W <u>Th</u> F Sa	9:35 am	11:40 am	Virgin Australia 555	Su M <u>Tu</u> W <u>Th</u> F Sa	10:25 am	12:20 pm	Qantas 581	Su M <u>Tu</u> W <u>Th</u> F Sa	11:55 am	1:50 pm	Qantas 567	Su	1:40 pm	3:35 pm	Qantas 577	Su M <u>Tu</u> W <u>Th</u> F Sa	1:55 pm	4:00 pm	Virgin Australia 559	Su M <u>Tu</u> W <u>Th</u> F Sa	4:20 pm	6:25 pm	Virgin Australia 563	Su	4:55 pm	6:50 pm	Qantas 569	Su M <u>Tu</u> W <u>Th</u> F Sa	5:40 pm	7:35 pm	Qantas 571	Su M <u>Tu</u> W <u>Th</u> F Sa	7:00 pm	9:05 pm	Virgin Australia 569	Su M <u>Tu</u> W <u>Th</u> F Sa	7:55 pm	9:50 pm	Qantas 583	Su M <u>Tu</u> W <u>Th</u> F Sa	8:05 pm	10:10 pm	Jetstar 988	Su M <u>W</u> <u>Th</u> F Sa	9:10 pm	11:15 pm	Tigerair 761	Su M <u>Tu</u> W <u>Th</u> F	/1
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Q17	If it is 4 p.m.in Seattle at 120°W, what time would it be in Moscow (30°E)? Assume no daylight saving.	/1																																																																
Q18	What is the area of a circle with a diameter of 9 m? (Express in terms of π .)	/1																																																																
Q19	Find the volume of a cylindrical tin of beans 10 cm in diameter and 20 cm tall.	/1																																																																
Q20	 <p>Read this scale.</p>	/1																																																																

Geometry		
Q21	The scale on a map is 1:20 000 000. Find the real distance between two cities which are 3.2 cm apart on the map.	/1
Q22	What is the name given to a polygon with 8 sides?	/1
Q23	 <p>The marked angles are angles. If the top one is 70°, then the bottom one is $^\circ$.</p>	/2
Q24	The location $23^\circ\text{S } 12^\circ\text{W}$ is in (circle one) A Russia B Australia C The Atlantic D The Mediterranean	/1
Q25	Translate this triangle 5 cm to the right. 	/1
Q26	The four congruence rules are: SSS,,,	/1

Statistics		
Q27	You are designing a survey to find out how popular the Pottsville Bikie Gang is. So you ask 6 members of the gang and 6 members of the Pottsville community who are not in the gang. Is this an unbiased survey? Why?	/2
Q28	What is the range of 4, 3, 3, 5, 1, 8, 12, 8 ?	/1

Probability		
Q29	What is probability?	/1
Q30	$\frac{1}{5}$ of dogs have bad teeth. $\frac{2}{5}$ of dogs roam the streets. If you find a dog roaming the street, what will be the probability that it has bad teeth?	/1
Q31	In a class of 22 students, 12 study German and 5 of those also study French. 14 in total study French. Draw a Venn diagram to show this information.	/1