



Conversion Tables and Templates

11 Score conversion tables and associated report templates

Part C contains the various score conversion tables, student reports and scale descriptor reports associated with each of the individual PAT:Mathematics tests. In all cases, it is essential to make sure that the table and report used for conversion correspond to the actual test administered. Use of the wrong table or report will invalidate the results.

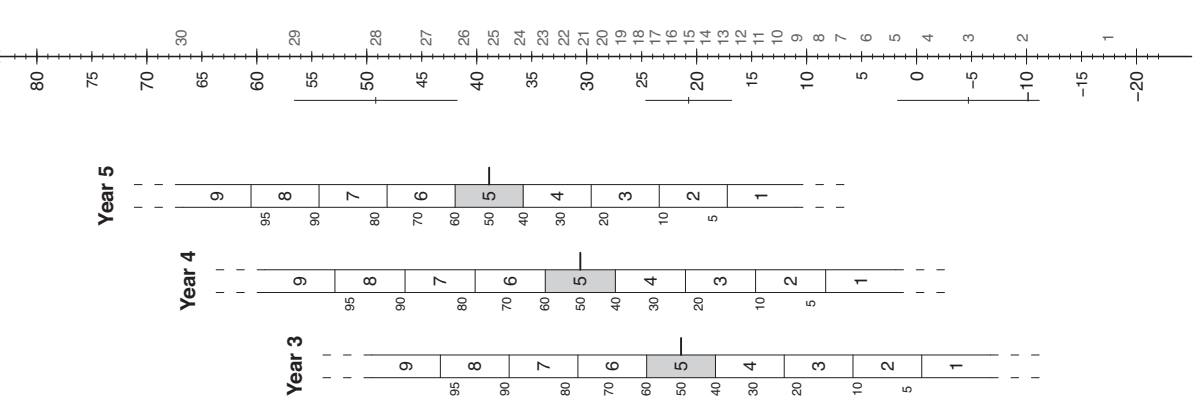
Part A of this manual provides an explanation of the different tables and reports and how to use them. We recommend that teachers and school administrators read Part A before using any of the tables or reports. Schools are free to copy the student and scale descriptor reports as needed.

Score Conversion Table: Test 1A

Test score (number correct)	Scale score (patm)	Error (patm)	Year 3 stanine	Year 4 stanine	Year 5 stanine
30	66.9	>10.2	9	9	9
29	56.6	10.2	9	9	8
28	49.2	7.4	9	8	7
27	44.6	6.2	9	7	6
26	41.2	5.5	8	7	5
25	38.5	5.0	8	6	5
24	36.1	4.7	7	6	5
23	34.0	4.5	7	6	4
22	32.1	4.3	7	5	4
21	30.3	4.2	6	5	4
20	28.6	4.1	6	5	3
19	26.9	4.0	6	4	3
18	25.3	4.0	6	4	3
17	23.8	3.9	5	4	3
16	22.3	3.9	5	4	2
15	20.7	3.9	5	3	2
14	19.2	3.9	5	3	2
13	17.6	4.0	4	3	2
12	16.0	4.0	4	3	1
11	14.4	4.1	4	2	1
10	12.7	4.2	4	2	1
9	10.9	4.3	3	2	1
8	8.9	4.5	3	2	1
7	6.9	4.7	3	1	1
6	4.6	4.9	2	1	1
5	2.0	5.3	2	1	1
4	-1.0	5.7	1	1	1
3	-4.7	6.4	1	1	1
2	-9.6	7.7	1	1	1
1	-17.4	10.4	1	1	1
0	-28.1	>10.4	1	1	1

PAT: Mathematics Student report

Scale score Test (patm) score



Student name: _____
 Student year level: _____
 Date of testing: _____
 Test raw score: _____
 Scale score (patm): _____
 Stanine: _____
 Year level of reference group: _____

Number Knowledge

- 1 Select the greatest of five three-digit numbers.
- 2 Recognise which number represents three groups of ten and four ones.
- 3 Recognise which triangle is half shaded.
- 4 Which number is 10 more than 1377?
- 16 Select a picture which does not match the number next to it.
- 17 Complete the pattern 11, 13, 15, ...
- 18 Select the number that is less than 43, but greater than 27.
- 19 Show what fraction of circles are shaded.

Number Strategies

- 5 Find the difference between 7 and 3 in a word problem.
- 6 Add 13, 4 and 12 in a word problem.
- 7 Recognise that 3×5 expresses three sets of five tens.
- 8 Solve $15 + \square = 35$.
- 20 What is $5 + 4$?
- 21 Select the group of coins that make 80 cents.
- 22 Solve $\square \times 1 = 5$.
- 23 Solve $28 - 9$ in a word problem.
- 24 Use equal sharing to distribute 24 kumera to 4 kete.

Geometry & Measurement

- 9 Select the picture of the longest car.
- 10 Work out which day is January 13 on a calendar.
- 11 Select the shape that can be folded so the two parts match.
- 12 Use compass directions on a grid map.
- 25 Use a picture of a ruler and a nail to measure the length of the nail.
- 26 Select the time shown on a clock.
- 27 Select the approximate weight of an 8 year old girl.
- 28 Identify a shape as a triangle (the triangle is a scalene triangle).

Statistics

- 13 Select the hottest day on a bar chart.
- 14 Count the total number of children represented by a pictograph.
- 15 Find how many players scored less than 5 goals using a table showing goals scored.
- 29 Select the activity displayed on a pie graph that cost the most.
- 30 Show how to record 5 on a tally chart.

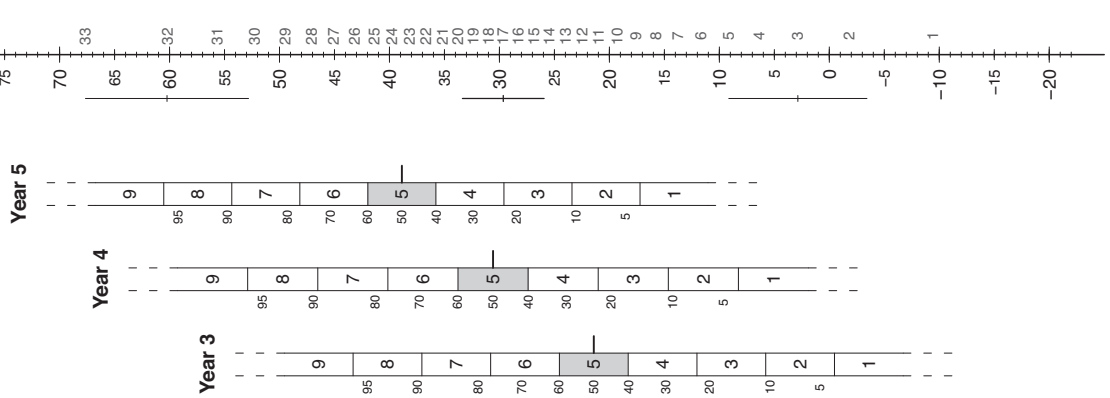
Item	Number Knowledge	Number Strategies	Geometry & Measurement	Statistics
1	2			
2				
3	16			
4	4			
5		5		
6		21		
7		7		
8		8		
9				
10				10
11		20		11
12			25	12
13				
14				14
15				
16				
17	18			
18				
19	19			
20				
21				
22		22		
23		23		
24		24		
25			26	
26				15
27				27
28				30
29				
30				29

Score Conversion Table: Test 1

Test score (number correct)	Scale score (patm)	Error (patm)	Year 3 stanine	Year 4 stanine	Year 5 stanine
34	78.0	>10.2	9	9	9
33	67.7	10.2	9	9	9
32	60.2	7.4	9	9	8
31	55.7	6.2	9	9	8
30	52.3	5.5	9	8	7
29	49.5	5.0	9	8	7
28	47.1	4.7	9	8	6
27	45.1	4.5	9	7	6
26	43.2	4.3	8	7	6
25	41.4	4.1	8	7	5
24	39.8	4.0	8	6	5
23	38.2	3.9	8	6	5
22	36.7	3.8	7	6	5
21	35.2	3.8	7	6	4
20	33.8	3.8	7	5	4
19	32.4	3.7	7	5	4
18	31.0	3.7	7	5	4
17	29.7	3.7	6	5	4
16	28.3	3.7	6	5	3
15	26.9	3.7	6	4	3
14	25.5	3.8	6	4	3
13	24.0	3.8	5	4	3
12	22.5	3.9	5	4	2
11	21.0	4.0	5	4	2
10	19.3	4.1	5	3	2
9	17.6	4.2	4	3	2
8	15.8	4.4	4	3	1
7	13.8	4.5	4	2	1
6	11.7	4.8	3	2	1
5	9.2	5.1	3	2	1
4	6.4	5.6	3	1	1
3	2.9	6.3	2	1	1
2	-1.8	7.5	1	1	1
1	-9.4	10.3	1	1	1
0	-19.8	>10.3	1	1	1

PAT: Mathematics Student report

Scale score Test (patm) Score



Student name: _____

Student year level: _____

Date of testing: _____

Test raw score: _____

Scale score (patm): _____

Stanine: _____

Year level of reference group: _____

Number Knowledge

- 1 Recognise which picture shows half of a set of items circled.
- 2 Find \square in $253 + \square = 253$.
- 3 Order 69, 51, 70, 96, 7 and 15 from smallest to largest.
- 4 Identify which number is 100 less than 356.
- 18 Identify that four groups of 10 with 5 left over can be written as 45.
- 19 Recognise a representation of 1/3.
- 20 Recognise that a picture represents 5×4 .
- 21 Calculate how many \$10 notes are needed to buy a doll costing \$120.

Number Strategies

- 5 Calculate $3 + 1 + 2$ in a word problem.
- 6 Calculate $27 + 25$ in a word problem.
- 7 Share 16 eggs between 3 baskets.
- 8 Calculate $95 - 72$ in a word problem.
- 9 Continue the number pattern 63, 65, 67, ...
- 22 Calculate that someone 7 places behind the 64th person in a line will be the 71st.
- 23 Calculate $12 + 5 + 11$ in a word problem.
- 24 Recognise which set of coins is exactly enough to buy an ice block costing \$1.90.
- 25 Solve $7 - \square = 3 + \square$ in a word problem.
- 26 Calculate $35 \div 7$ in a word problem.
- 27 Continue a repeating pattern of beads to find what the 24th bead will look like.

Geometry & Measurement

- 10 Find the axis of symmetry of a kite shape.
- 11 Follow directions specifying left and right turns.
- 12 Identify which of 1mm, 1cm, 1m or 1km would best suit the length of some ribbon.
- 13 Match a digital time with an analogue time.
- 14 Rotate a shape by a quarter turn clockwise.
- 28 Measure a stamp using the correct units shown on a ruler.
- 29 Visualise which shape a net will fold to make.
- 30 Calculate which day the 1st of November will fall on, given a calendar for October.
- 31 Calculate the number of wool bales in a 3 by 2 by 4 stack carried on a truck.

Statistics

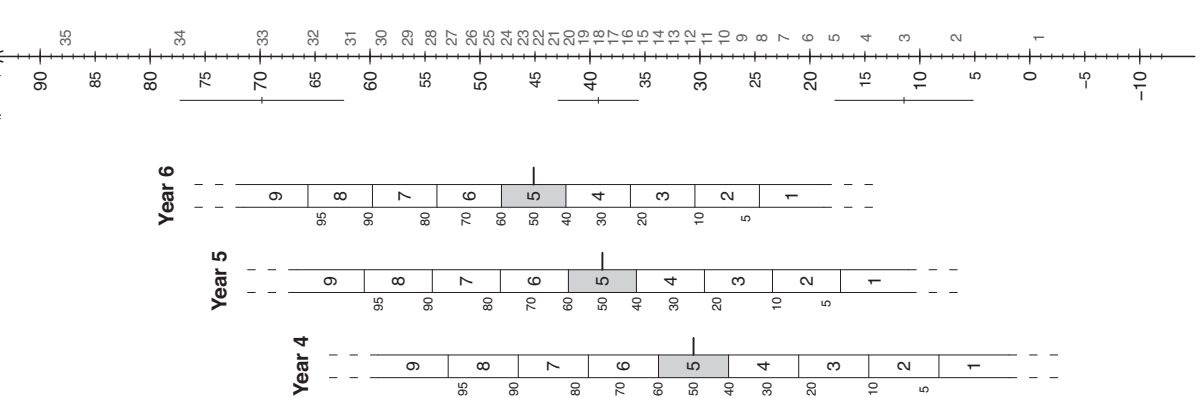
- 15 Organise data into a bar graph.
- 16 Interpret a tally chart.
- 17 Interpret a pictogram where each unit represents 1 ice cream.
- 32 Recognise which day is the coldest in a bar chart.
- 33 Identify which of 5 faces represents the mood shown on a happiness scale.
- 34 Predict the least likely animal to be chosen at random from a set of toy animals.

Score Conversion Table: **Test 2**

Test score (number correct)	Scale score (patm)	Error (patm)	Year 4 stanine	Year 5 stanine	Year 6 stanine
35	87.7	>10.3	9	9	9
34	77.3	10.3	9	9	9
33	69.8	7.5	9	9	9
32	65.2	6.2	9	9	8
31	61.8	5.5	9	9	8
30	59.0	5.1	9	8	7
29	56.6	4.7	9	8	7
28	54.5	4.5	9	8	7
27	52.6	4.3	8	7	6
26	50.8	4.1	8	7	6
25	49.2	4.0	8	7	6
24	47.6	3.9	8	6	5
23	46.1	3.8	7	6	5
22	44.7	3.8	7	6	5
21	43.3	3.7	7	6	5
20	41.9	3.7	7	5	4
19	40.6	3.7	7	5	4
18	39.2	3.7	6	5	4
17	37.9	3.7	6	5	4
16	36.6	3.7	6	5	4
15	35.2	3.7	6	4	3
14	33.8	3.7	5	4	3
13	32.4	3.8	5	4	3
12	30.9	3.9	5	4	3
11	29.4	3.9	5	3	2
10	27.8	4.0	5	3	2
9	26.2	4.2	4	3	2
8	24.4	4.3	4	3	1
7	22.4	4.5	4	2	1
6	20.2	4.8	3	2	1
5	17.8	5.1	3	2	1
4	14.9	5.6	3	1	1
3	11.4	6.3	2	1	1
2	6.7	7.5	1	1	1
1	-0.8	10.3	1	1	1
0	-11.3	>10.3	1	1	1

PAT: Mathematics Student report

Scale score Test (patm) score



Student name: _____

Student year level: _____

Date of testing: _____

Test raw score: _____

Scale score (patm): _____

Stanine: _____

Year level of reference group: _____

Number Knowledge

- 1 State the meaning of 7 in 756.
- 2 Interpret the three-digit number 230.
- 3 Identify how many \$10 notes are needed to make \$340.
- 4 Recognise $1/2 + 1/2$.
- 19 Identify which number is 1 more than 999.
- 20 Identify which number is not in the six-times table.
- 21 Recognise that 4/5 of 5 objects are shaded.

Number Strategies

- 5 Identify which coins make the change needed if \$3 is paid for an item costing \$2.40.
- 6 Which number does not fit the pattern 1, 2, 4, 8, ...
- 7 Calculate $38 + 46 + 29$ in a word problem.
- 8 Calculate $8 - 1/4$ of 8 in a word problem.
- 9 Calculate $85 - 28$ in a word problem.
- 10 Calculate 43×6 in a word problem.
- 22 Recognise that 2×36 can be used to work out 6×12 if you know $3 \times 12 = 36$.
- 23 Find \square in $25 + \square = 55$.
- 24 Find $(12 + 15) \div 3$ in a word problem.
- 25 Find the next member of a spatial pattern represented by 1, 5, 9, ...
- 26 Identify how many of 100 beads in a picture are covered if a block of 4 by 6 is uncovered.
- 27 Solve with the help of a number line $121 - \square = 57$.

Geometry & Measurement

- 11 Recognise the description of a triangle.
- 12 Recognise which direction on a map is south-west.
- 13 Identify which day is one week before 15 December.
- 14 Identify which clock is showing 10 minutes past 11.
- 15 Read a scale with markings every 5 millilitres.
- 28 Visualise what a net will fold to make.
- 29 Find an area in unit squares.
- 30 Rotate a shape by a quarter turn anticlockwise.
- 31 Reflect a shape in a horizontal mirror line.
- 32 Identify which person is strong but slow on an x,y plot.

Statistics

- 16 Interpret a bar graph.
- 17 Identify there is a good chance of picking a white marble from a cup with 3 white and 2 black marbles.
- 18 Interpret a point on a line graph.
- 33 Identify how many players score less than 6 goals in a frequency table.
- 34 Organise data into a bar graph.
- 35 Interpret a pictograph where each unit stands for 2 horses.

31	15	30	35
10	9	22	25
27	8	24	23
21	4	20	19
3	6	7	5
2	13	29	16
1	12	17	33
	11	18	34

Statistics

Geometry & Measurement

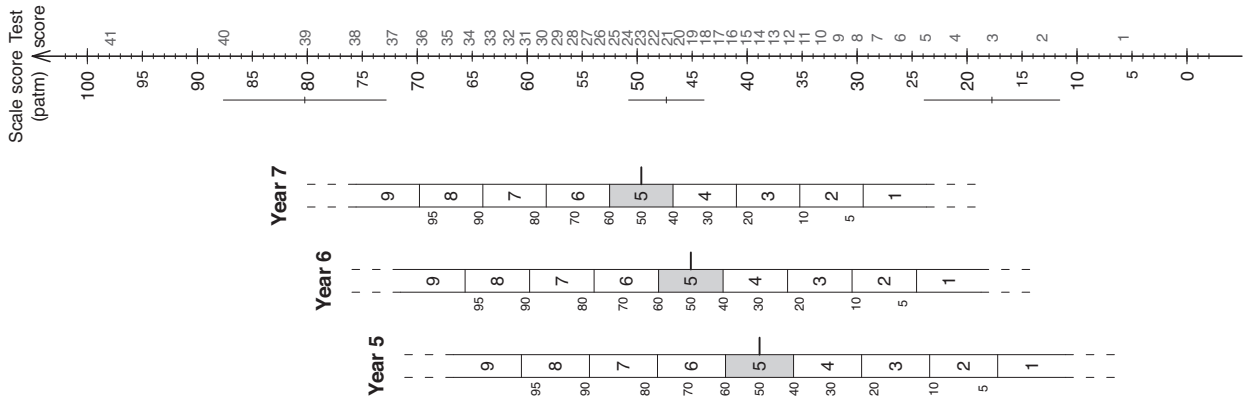
Number Strategies

Number Knowledge

Score Conversion Table: **Test 3**

Test score (number correct)	Scale score (patm)	Error (patm)	Year 5 stanine	Year 6 stanine	Year 7 stanine
41	97.9	>10.2	9	9	9
40	87.6	10.2	9	9	9
39	80.2	7.4	9	9	9
38	75.7	6.2	9	9	9
37	72.3	5.5	9	9	9
36	69.6	5.0	9	9	8
35	67.3	4.6	9	9	8
34	65.3	4.4	9	8	8
33	63.4	4.2	9	8	7
32	61.7	4.0	9	8	7
31	60.2	3.9	8	8	7
30	58.7	3.8	8	7	7
29	57.3	3.7	8	7	6
28	55.9	3.6	8	7	6
27	54.6	3.6	8	7	6
26	53.4	3.5	7	6	6
25	52.1	3.5	7	6	5
24	50.9	3.5	7	6	5
23	49.7	3.4	7	6	5
22	48.5	3.4	7	6	5
21	47.3	3.4	6	5	5
20	46.2	3.4	6	5	4
19	45.0	3.4	6	5	4
18	43.8	3.5	6	5	4
17	42.6	3.5	6	5	4
16	41.4	3.5	5	4	4
15	40.1	3.5	5	4	3
14	38.9	3.6	5	4	3
13	37.6	3.7	5	4	3
12	36.2	3.7	5	3	3
11	34.8	3.8	4	3	2
10	33.3	3.9	4	3	2
9	31.7	4.0	4	3	2
8	30.0	4.2	4	2	2
7	28.2	4.4	3	2	1
6	26.1	4.7	3	2	1
5	23.8	5.0	3	1	1
4	21.1	5.5	2	1	1
3	17.7	6.2	2	1	1
2	13.2	7.4	1	1	1
1	5.8	10.2	1	1	1
0	-4.4	>10.2	1	1	1

PAT: Mathematics Student report



Student name: _____

Student year level: _____

Date of testing: _____

Test raw score: _____

Scale score (patm): _____

Stanine: _____

Year level of reference group: _____

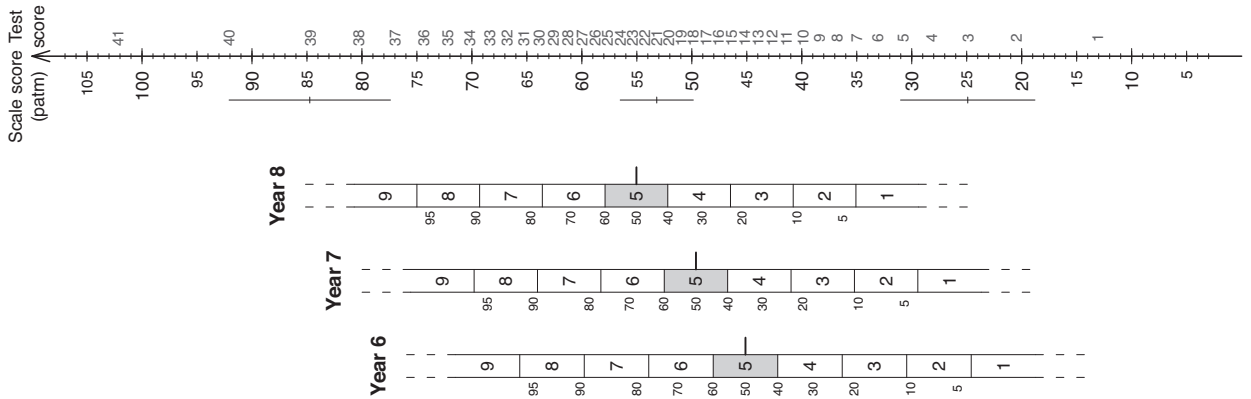
- Number Knowledge**
- Find how many pieces are made if a cake is cut into 1/4s and each of these is halved.
 - Identify which number is 100 more than 2,366.
 - Interpret a diagram representing 5×7 .
 - Recognise $1/4 + 1/4$.
 - Recognise the four-digit number 3,402.
 - Evaluate the number of 10's in 634.
 - Recognise that 5/6 of a hexagon has been shaded.
 - Recognise that four and eight tenths can be written as 4.8.
- Number Strategies**
- Identify that if 2 ice creams cost the same as 3 chocolate bars then a single chocolate bar costs less than an ice cream.
 - Find what $20 \div \square$ equals if $5 \times \square = 1$.
 - Calculate 32×3 .
 - Find 2 prices out of 5 that sum to \$1.75.
 - Calculate $42 \div 3$ in a word problem.
 - Identify how many out of 100 beads in a picture are uncovered if an 8 by 8 block is covered.
 - Identify 2/3 of 9 in a diagram.
 - Continue the spatial pattern represented by 3, 5, 7, 9...
 - Identify that $280 - 14 = 7 \times 38$ given that $7 \times 40 = 280$.
 - Recognise that if $7 \times \square = 35$ then $\square = 35 \div 7$.
 - Continue the number pattern 44, 47, 50...
 - Recognise the coins given in change when \$20 is paid for an item costing \$16.70.
 - Calculate \square in the proportion 5 to $2 = \square$ to 12 in a word problem.
 - Recognise which of 4 alternative strategies to calculate $65 - 38$ is correct.
 - Calculate $936 \div 780 + 205$.
 - Interpret 123 - 99 shown on a number line.
- Geometry & Measurement**
- Compute the time difference between 2 p.m. and 10 a.m. shown on analogue clocks.
 - Calculate distance on a scale map.
 - Recognise which streets are parallel on a map.
 - Recognise what a shape will look like when given a quarter turn anticlockwise.
 - Recognise the cross-section of an object.
 - Choose which of 5 containers holds about 200 ml.
 - Find an area in unit squares.
 - Visualise what a net will fold to make.
 - Read a scale with markings in 50 ml units.
 - Enlarge a shape by a scale factor of 2.
 - Recognise how a shape tessellates.
- Statistics**
- Interpret a pie chart.
 - Identify which tally chart can be used to make a bar graph.
 - Recognise which probability is marked on a number line.
 - Recognise which spinner is most likely to point to blue.
 - Interpret a frequency table.
 - Organise data into a pie chart.

Item	Number Knowledge	Number Strategies	Geometry & Measurement	Statistics
1	22			
2	2			
3	3			
4	4	25		
5	5	9	15	
6	6	27	37	38
7	7	10	16	17
8	8	11	36	21
9	9	29	35	40
10	10	26		
11	12	31		
12				
13				
14			14	
15			34	
16			13	19
17				20
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
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31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				

Score Conversion Table: **Test 4**

Test score (number correct)	Scale score (patm)	Error (patm)	Year 6 stanine	Year 7 stanine	Year 8 stanine
41	102.2	>10.2	9	9	9
40	92.1	10.2	9	9	9
39	84.7	7.3	9	9	9
38	80.3	6.1	9	9	9
37	77.0	5.4	9	9	9
36	74.4	4.9	9	9	8
35	72.2	4.6	9	9	8
34	70.2	4.3	9	9	8
33	68.4	4.1	9	8	7
32	66.8	3.9	9	8	7
31	65.3	3.8	8	8	7
30	63.9	3.7	8	7	7
29	62.6	3.6	8	7	6
28	61.3	3.5	8	7	6
27	60.0	3.5	8	7	6
26	58.8	3.4	7	7	6
25	57.7	3.4	7	6	5
24	56.5	3.4	7	6	5
23	55.4	3.3	7	6	5
22	54.3	3.3	7	6	5
21	53.2	3.3	6	6	5
20	52.1	3.3	6	5	4
19	51.0	3.3	6	5	4
18	49.9	3.3	6	5	4
17	48.7	3.4	6	5	4
16	47.6	3.4	5	5	4
15	46.4	3.4	5	4	3
14	45.2	3.5	5	4	3
13	44.0	3.5	5	4	3
12	42.7	3.6	5	4	3
11	41.4	3.7	4	4	3
10	39.9	3.8	4	3	2
9	38.4	3.9	4	3	2
8	36.8	4.1	4	3	2
7	35.0	4.3	3	2	1
6	33.1	4.6	3	2	1
5	30.8	4.9	3	2	1
4	28.2	5.4	2	1	1
3	24.9	6.1	2	1	1
2	20.5	7.3	1	1	1
1	13.1	10.2	1	1	1
0	2.9	>10.2	1	1	1

PAT: Mathematics Student report



Student name: _____

Student year level: _____

Date of testing: _____

Test raw score: _____

Scale score (patm): _____

Stanine: _____

Year level of reference group: _____

- Number Knowledge**
- 1 Recognise 30% as a fraction out of 100.
 - 2 Interpret the five-digit number 20,304.
 - 3 Give the number of 100s in 4,826 in a word problem.
 - 4 Calculate $0.6 + 0.4$.
 - 22 Identify which of 0.1, 0.09, 0.19, 0.2, 0.16 is the largest.
 - 23 Write 20% as a decimal.
 - 25 Identify which decimal number is half way between 4.0 and 4.2 on the number line.

- Number Strategies**
- 6 Calculate $7.6 + 11.8$ in a word problem.
 - 7 Recognise the coins needed for change if \$30 is paid for a \$26.70 item.
 - 8 Calculate \square in the proportion 3 to $10 = 12$ to \square in a word problem.
 - 9 Calculate $96 \div 6$ in a word problem.
 - 10 Calculate $1/2$ and $1/3$ of 24 and work out how much remains in a word problem.
 - 11 Calculate 27×13 .
 - 12 Recognise simpler strategies to solve $444 - 388$.
 - 26 Identify that $49 + 14$ can be used to work out 9×7 , given $7 \times 7 = 49$.
 - 27 Identify that 30 is $1/3$ of 90 in a word problem.
 - 29 Calculate how many beads out of 100 are covered if a diagram shows 33 uncovered.

- Algebra**
- 5 Find \square in $4 + 5 = \square + 3$.
 - 24 Plot co-ordinate pairs on axes.
 - 28 Solve $\$3.30 + \square = \$5.50 - \square$ in a word problem.
 - 30 Find the 6th term of the spatial pattern 5, 8, 11...
 - 31 Solve several equations to find which one has the biggest missing number.

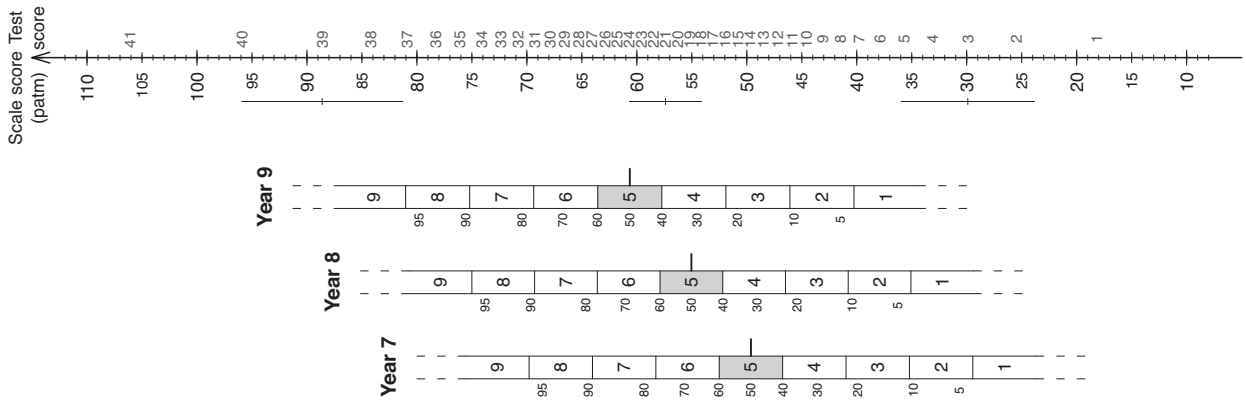
- Geometry & Measurement**
- 13 Find the difference between times shown on a digital and analogue clock.
 - 14 Measure 6.8 cm to the nearest centimetre.
 - 15 Calculate distance on a scale map.
 - 16 Find the shape drawn on grid paper with the largest area.
 - 17 Find which of 5 shapes made up of unit cubes has a different volume.
 - 18 Calculate $12 \text{ cm} + 63 \text{ mm}$.
 - 32 Visualise which of 5 nets will fold to make the shown box.
 - 33 Compute how many minutes in $2 \frac{1}{2}$ hours.
 - 34 Recognise which of 3 objects is heaviest if different numbers of each object weigh the same.
 - 35 Rotate an object through a half-turn.
 - 36 Recognise which set of lines cannot be used to make a triangle.
 - 37 Recognise what a square will look like if it is enlarged by a scale factor of 2.
 - 38 Estimate how many milliliters a cup will hold.

- Statistics**
- 19 Recognise which of 5 statements of probability is marked on a number line.
 - 20 Identify which score can be removed to improve the average score the most.
 - 21 Choose the most appropriate question for a survey.
 - 39 Interpret a pictogram where each element represents 6 people.
 - 40 Find all possible combinations for 2 shirts and 4 shorts.
 - 41 Recognise 20% in a pie graph.

Score Conversion Table: Test 5

Test score (number correct)	Scale score (patm)	Error (patm)	Year 7 stanine	Year 8 stanine	Year 9 stanine
41	106.1	>10.2	9	9	9
40	95.9	10.2	9	9	9
39	88.6	7.3	9	9	9
38	84.2	6.1	9	9	9
37	80.9	5.4	9	9	8
36	78.3	4.9	9	9	8
35	76.1	4.6	9	9	8
34	74.1	4.3	9	8	7
33	72.4	4.1	9	8	7
32	70.8	3.9	9	8	7
31	69.3	3.8	8	8	6
30	67.9	3.7	8	7	6
29	66.6	3.6	8	7	6
28	65.3	3.5	8	7	6
27	64.1	3.4	8	7	6
26	62.9	3.4	7	6	5
25	61.8	3.4	7	6	5
24	60.7	3.3	7	6	5
23	59.6	3.3	7	6	5
22	58.5	3.3	7	6	5
21	57.4	3.3	6	5	4
20	56.3	3.3	6	5	4
19	55.2	3.3	6	5	4
18	54.2	3.3	6	5	4
17	53.1	3.3	6	5	4
16	52.0	3.3	5	4	4
15	50.8	3.4	5	4	3
14	49.7	3.4	5	4	3
13	48.5	3.5	5	4	3
12	47.2	3.6	5	4	3
11	45.9	3.6	4	3	2
10	44.6	3.8	4	3	2
9	43.1	3.9	4	3	2
8	41.5	4.0	4	3	2
7	39.8	4.3	3	2	1
6	37.9	4.5	3	2	1
5	35.7	4.9	3	2	1
4	33.1	5.3	2	1	1
3	29.9	6.1	2	1	1
2	25.5	7.3	1	1	1
1	18.2	10.2	1	1	1
0	8.1	>10.2	1	1	1

PAT: Mathematics Student report



Item	Number Knowledge	Number Strategies	Algebra	Geometry & Measurement	Statistics
1	21				
2	2				
3	3				
4	4	5			
5	6	25			
6	7	26			
7	8	27			
8	9	28			
9	10	29			
10	11	30			
11	12	31			
12	13	32			
13	14	33			
14	15	34			
15	16	35			
16	17	36			
17	18	37			
18	19	38			
19	20	39			
20	21	40			
21	22	41			

Student name: _____

Student year level: _____

Date of testing: _____

Test raw score: _____

Scale score (patm): _____

Stanine: _____

Year level of reference group: _____

- Number Knowledge**
- Identify which of 5 rectangles is 3/4 shaded.
 - Identify that the position shown on a number line between 5.0 and 5.2 is 5.16.
 - Identify 0.4 is between 2/10 and 1/2.
 - Solve $3 + -4$.
 - Identify how many 10,000s in 728,160.
 - Order 5.6, 5.22, 5.315, 5.08 from smallest to largest.

- Number Strategies**
- Recognise 8×16 is the same as 64×2 given $8 \times 8 = 64$.
 - Calculate $2,875 - 1,987$ in a word problem.
 - Calculate $309 - (90 + 89 + 76 + 88)$ in a word problem.
 - Recognise that $1/10$ of 9 is 0.9.
 - Convert 70 out of 200 to a percentage in a word problem.
 - Recognise an example of estimation.
 - Calculate $47.03 + 1.97$.
 - Calculate the cheapest cost for one hour at 5 different rates.
 - Find 15% of 300 in a word problem.
 - Find how many tables are needed for 317 people at 8 per table.
 - Find x when $6:4$ is equivalent to $x:10$ in a word problem.

- Algebra**
- Find the next two numbers in the sequence 940, 820, 700, 580...
 - Recognise that if $\Delta \times 2 = \square$ then $\Delta \times 8$ will equal $\square \times 4$.
 - Identify an equation that can be used to solve a problem.
 - Find \square in $\square - 57 = 94$.
 - Find which shape has 100 matches in the spatial pattern 4, 8, 12...
 - Identify which distance-time graph matches a described journey.

- Geometry & Measurement**
- Use a given unit to find the area of a shaded region.
 - Visualise which of 5 nets cannot be folded to make a cube.
 - Read a thermometer with 2° C gradations.
 - Identify an accurate definition of volume.
 - Identify which rotation will leave a star looking the same.
 - Identify the reflected image of 'p' in a horizontal mirror line.
 - Identify the view from the back of a 3-D shape.
 - Use a timetable to identify which bus journey is the shortest.
 - Identify which of 5 angles is greater than 90° but less than 180° .
 - Convert between mm, cm, m and km.
 - Know that angle size is invariant under enlargement.
 - Identify which of 3 patterns can be completed by tessellating a shape.

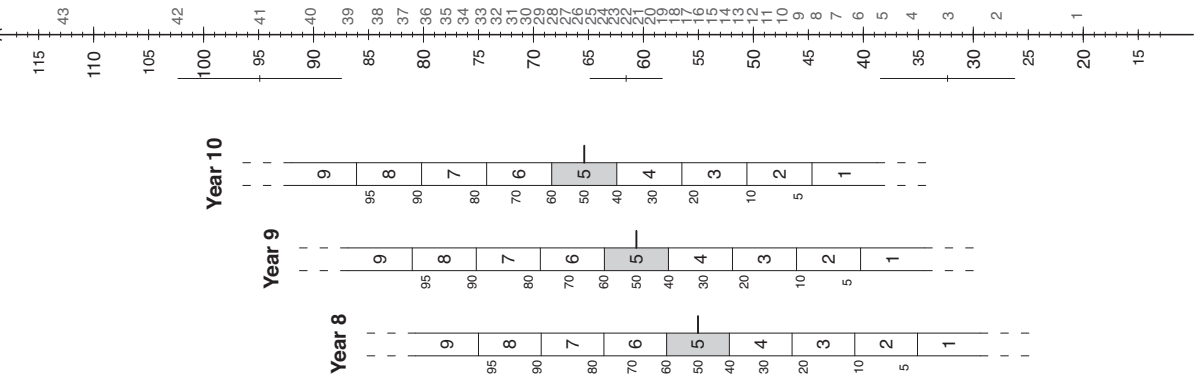
- Statistics**
- Use areas on a grid to find a probability.
 - Find the sum of 6 numbers if their average is 5.
 - Recognise the highest probability for three different outcomes.
 - Identify the fairest way to choose a sample.
 - Interpret a frequency table.
 - Identify a general trend in a scatter graph.

Score Conversion Table: Test 6A

Test score (number correct)	Scale score (patm)	Error (patm)	Year 8 stanine	Year 9 stanine	Year 10 stanine
43	112.8	>10.3	9	9	9
42	102.4	10.3	9	9	9
41	94.9	7.4	9	9	9
40	90.3	6.2	9	9	9
39	86.9	5.5	9	9	9
38	84.2	5.0	9	9	8
37	81.9	4.6	9	9	8
36	79.8	4.4	9	8	7
35	78.0	4.2	9	8	7
34	76.4	4.0	9	8	7
33	74.8	3.9	8	7	7
32	73.4	3.7	8	7	6
31	72.0	3.6	8	7	6
30	70.7	3.6	8	7	6
29	69.5	3.5	8	7	6
28	68.3	3.4	7	6	5
27	67.1	3.4	7	6	5
26	66.0	3.4	7	6	5
25	64.8	3.3	7	6	5
24	63.7	3.3	7	6	5
23	62.7	3.3	6	5	5
22	61.6	3.3	6	5	4
21	60.5	3.3	6	5	4
20	59.4	3.3	6	5	4
19	58.3	3.3	6	5	4
18	57.2	3.3	5	4	4
17	56.1	3.3	5	4	3
16	55.0	3.4	5	4	3
15	53.8	3.4	5	4	3
14	52.6	3.5	5	4	3
13	51.4	3.5	4	3	3
12	50.1	3.6	4	3	2
11	48.8	3.7	4	3	2
10	47.4	3.8	4	3	2
9	45.9	3.9	3	2	2
8	44.3	4.1	3	2	1
7	42.5	4.3	3	2	1
6	40.5	4.6	2	2	1
5	38.3	4.9	2	1	1
4	35.6	5.4	2	1	1
3	32.3	6.1	1	1	1
2	27.9	7.3	1	1	1
1	20.6	10.2	1	1	1
0	10.4	>10.2	1	1	1

PAT: Mathematics Student report

Scale score Test (patm) Score



Student name: _____

Student year level: _____

Date of testing: _____

Test raw score: _____

Scale score (patm): _____

Stanine: _____

Year level of reference group: _____

Number Knowledge

- Select the greatest number from 0.09, 0.2, 0.3, 0.29, and 0.084.
- Subtract 8 from 3.
- Identify that the digit 6 in 547.36 signifies the number of hundredths.
- Find how many \$100 notes are needed to make \$6,700.
- Identify 60% written as a decimal.
- Round 9.865 to one decimal place.
- Identify which of three shapes are 1/3 shaded.

Number Strategies

- Find the whole given that $4/5 = 20$ in a word problem.
- Calculate 20×0.02 .
- Find $2/5$ of 60 in a word problem.
- If 3 cellphones cost \$780, how much will 4 cost?
- Find 15% of 600 in a word problem.
- Find which class size can be divided into equal size groups.
- If six balls represent $2/6$ how many will represent $1/6$?
- Subtract 45,700 from 347,600 in a word problem.
- Identify which cost for four days accommodation represents the best value.
- Calculate how many DVDs are purchased if \$300 is used to buy a \$120 player and each DVD costs \$30.
- Decide which student is using an estimation strategy.
- Convert 30 out of 40 to a percentage.
- Solve $12 \div 0.4$.

Algebra

- The ratio of black to white counters is 2:1. How many counters out of 60 are black?
- Identify the pattern in a sequence of shapes made up of match sticks.
- Read a distance time graph to find the difference in time taken by two cars to travel 60 km.
- Show an understanding of the equal sign.
- Given $\Delta \times 4 = \square$ identify that $\Delta \times 12 = \square \times 3$.

Geometry & Measurement

- Identify which picture shows a square and its reflection in a diagonal mirror line.
- Use the dimensions of 4 boxes to find which one has the greatest volume.
- Show what a rectangle will look like when enlarged by a scale factor of 2.
- If 10 grams of gold makes one medal, how many medals can be made from 10 kg?
- Use a plan of a house and lawn to find the area of lawn shown.
- Identify which net cannot be folded to make a box.
- Identify which shape will look exactly the same if rotated 180 degrees.
- Use the idea of angles on a line to find a missing angle.
- Use 24 hour time to solve a time problem.
- Calculate the approximate area of an island shown on a grid map.
- If a cube with all sides 1 cm weighs 1 gram, how much will a cube with 2 cm sides weigh?

Statistics

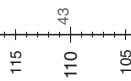
- Identify that the outcome of tossing a fair coin is not affected by any previous tosses.
- Use a pie graph to identify which percentage is represented by one category.
- Identify the fairest of several ways that could be used to construct a sample.
- Find 1/10 of 80 in a word problem.
- Use a bar chart to find the mean.
- Identify the number of scores greater than 6 in a frequency table.

Score Conversion Table: Test 6

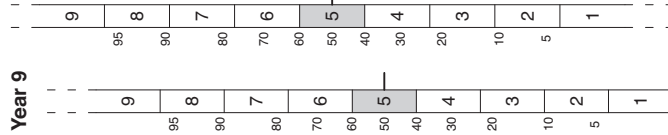
Test score (number correct)	Scale score (patm)	Error (patm)	Year 8 stanine	Year 9 stanine	Year 10 stanine
43	110.7	>10.2	9	9	9
42	100.5	10.2	9	9	9
41	93.2	7.3	9	9	9
40	88.8	6.1	9	9	9
39	85.5	5.4	9	9	8
38	82.9	4.9	9	9	8
37	80.7	4.5	9	8	8
36	78.7	4.3	9	8	7
35	77.0	4.1	9	8	7
34	75.4	3.9	9	8	7
33	73.9	3.8	8	7	6
32	72.5	3.7	8	7	6
31	71.2	3.6	8	7	6
30	70.0	3.5	8	7	6
29	68.8	3.4	7	6	6
28	67.6	3.4	7	6	5
27	66.5	3.3	7	6	5
26	65.3	3.3	7	6	5
25	64.3	3.3	7	6	5
24	63.2	3.3	6	5	5
23	62.1	3.3	6	5	4
22	61.1	3.3	6	5	4
21	60.0	3.3	6	5	4
20	58.9	3.3	6	5	4
19	57.9	3.3	6	5	4
18	56.8	3.3	5	4	4
17	55.7	3.3	5	4	3
16	54.6	3.4	5	4	3
15	53.4	3.4	5	4	3
14	52.2	3.5	5	4	3
13	51.0	3.5	4	3	3
12	49.7	3.6	4	3	2
11	48.4	3.7	4	3	2
10	47.0	3.8	4	3	2
9	45.5	4.0	3	2	2
8	43.8	4.1	3	2	1
7	42.0	4.3	3	2	1
6	40.0	4.6	2	1	1
5	37.8	5.0	2	1	1
4	35.1	5.4	2	1	1
3	31.7	6.2	1	1	1
2	27.2	7.4	1	1	1
1	19.8	10.2	1	1	1
0	9.5	>10.2	1	1	1

PAT: Mathematics Student report

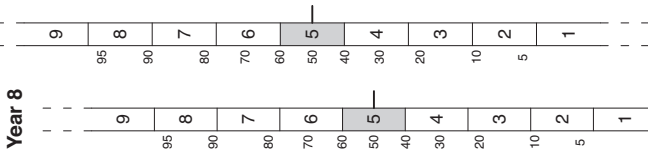
Scale score Test (patm) Score



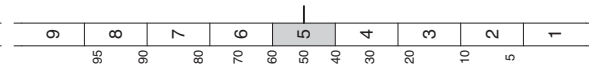
Year 10



Year 9



Year 8



Student name: _____

Student year level: _____

Date of testing: _____

Test raw score: _____

Scale score (patm): _____

Stanine: _____

Year level of reference group: _____

Number Knowledge

- Subtract 9° from 5°.
- Identify 0.6 as 6/10.
- Recognise 8/10 of a set of objects is equivalent to 4/5.
- Identify the position shown on a number line is 16.018.
- Identify which of 5 rectangles is two-thirds shaded.
- Round 59.845 to 1 decimal place.
- Identify the position of 4/7 on a number line.

Number Strategies

- Find how many circles will represent 1/3 if 6 circles represent 2/3.
- Find x when 5:10 is equivalent to x:40 in a word problem.
- Calculate which payment option over 1 year is cheapest.
- Calculate 350 × 200.
- Find how long sound travelling at 340 m/sec takes to travel 1.7 km.
- Find which of 4 groups of people get the most pizza per person.
- Understand that 480 × 20 is 20 less than 479 × 20.
- Find x when 2:3 is equivalent to 6x in a word problem.
- Convert 16 out of 25 to a percentage in a word problem.
- Calculate 880.874 – 21,200 in a word problem.
- Identify that 2, 5 and 6 all go into 31 with 1 remainder in a word problem.
- Find what 100% equals if 24 is 75%.
- Find what 4.25 cm represents given a scale of 5 cm to 20 km.

Algebra

- Solve (36,000 – 24,000) / 6,000 in a word problem.
- Find □ in 4 × 3 = □ + 2.
- Write an algebraic expression for a word problem.
- Find the distance apart of 2 cars plotted on distance-time graphs.
- Identify that n × 2 will be even if n is any counting number.
- Use triangular numbers to find how high a stack of 36 cans will be.

Geometry & Measurement

- Identify a 12 hour and 24 hour clock showing the same time.
- Identify what a reflected shape will look like.
- Find the center of rotation.
- Find the missing angle in a triangle.
- Visualise which cube a net will fold to make.
- Find the height of a box given 2 sides and its volume.
- Identify the appropriate unit of weight (mass).
- Identify which of 5 constructions could not have the front and top view shown.
- Identify the path made by a dog running around a fence.
- Identify what a shape enlarged by a scale factor of 2 will look like.
- Calculate the internal angle of a regular hexagon given a picture of it tessellating.

Statistics

- Identify which raffle provides the best chance of winning.
- Identify the fairest way to choose a sample.
- Name the fraction of cars shown on a bar graph that are green.
- Use knowledge of means to find a missing number.
- Calculate the probability of rolling an odd number on a dice.
- Use a line graph to calculate weight gain over 8 months.

Number Knowledge

Number Strategies

Algebra

Geometry & Measurement

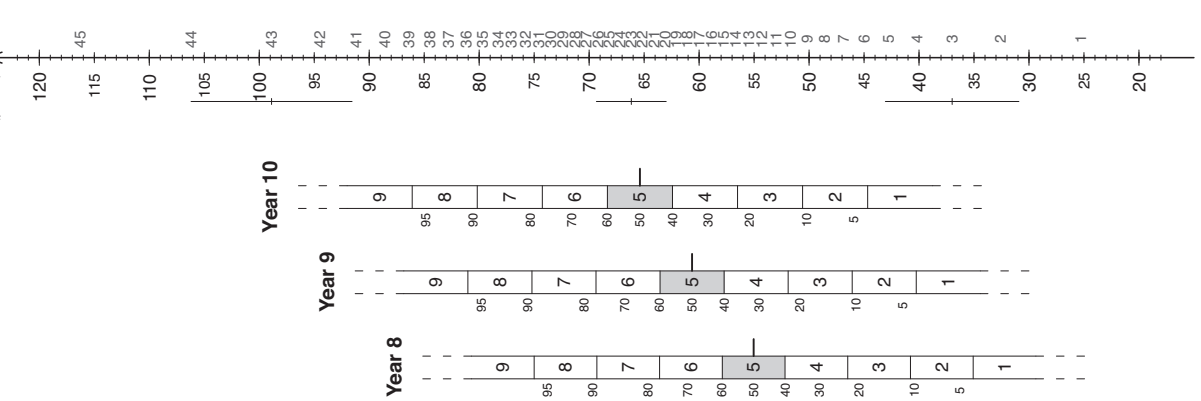
Statistics

Score Conversion Table: Test 7

Test score (number correct)	Scale score (patm)	Error (patm)	Year 8 stanine	Year 9 stanine	Year 10 stanine
45	116.3	>10.2	9	9	9
44	106.2	10.2	9	9	9
43	98.9	7.3	9	9	9
42	94.5	6.1	9	9	9
41	91.2	5.4	9	9	9
40	88.6	4.9	9	9	9
39	86.4	4.5	9	9	9
38	84.5	4.3	9	9	8
37	82.8	4.1	9	9	8
36	81.2	3.9	9	9	8
35	79.7	3.8	9	8	7
34	78.3	3.6	9	8	7
33	77.1	3.6	9	8	7
32	75.8	3.5	9	8	7
31	74.6	3.4	8	7	7
30	73.5	3.3	8	7	6
29	72.4	3.3	8	7	6
28	71.3	3.3	8	7	6
27	70.3	3.2	8	7	6
26	69.2	3.2	7	6	6
25	68.2	3.2	7	6	5
24	67.2	3.2	7	6	5
23	66.2	3.2	7	6	5
22	65.2	3.2	7	6	5
21	64.1	3.2	7	6	5
20	63.1	3.2	6	5	5
19	62.1	3.2	6	5	4
18	61.1	3.2	6	5	4
17	60.0	3.3	6	5	4
16	58.9	3.3	6	5	4
15	57.8	3.3	5	5	4
14	56.7	3.4	5	4	4
13	55.5	3.5	5	4	3
12	54.3	3.5	5	4	3
11	53.0	3.6	5	4	3
10	51.7	3.7	4	3	3
9	50.2	3.9	4	3	2
8	48.6	4.0	4	3	2
7	46.9	4.3	4	3	2
6	45.0	4.5	3	2	2
5	42.8	4.9	3	2	1
4	40.2	5.3	2	1	1
3	37.0	6.1	2	1	1
2	32.6	7.3	1	1	1
1	25.3	10.2	1	1	1
0	15.2	>10.2	1	1	1

PAT: Mathematics Student report

Scale score Test (patm) Score



Student name: _____
 Student year level: _____
 Date of testing: _____
 Test raw score: _____
 Scale score (patm): _____
 Stanine: _____
 Year level of reference group: _____

Number Knowledge

- 1 Identify what percentage of a regular octagon is shaded.
- 2 Find \square in $0.843 \times \square = 84.3$.
- 3 Order 9.55, 9.345, 9.08, 9.4 from smallest to largest.
- 23 Understand rounding to the nearest million.
- 24 Add and subtract positive and negative numbers.

Number Strategies

- 4 Find x when $x8$ is equivalent to 30:24 in a word problem.
- 5 Calculate 34×13 in a word problem.
- 6 Identify which of 4 strategies can be used to solve $85 - 38$.
- 7 Convert 160 out of 800 to a percentage in a word problem.
- 8 Identify which of 5 fuel consumption rates is the most economical.
- 9 Find how long sound travelling at 340 m/sec takes to travel 1.19 km.
- 25 Understand that if $5 \times 13 = 65$ then 20×13 will equal 4×65 .
- 26 Calculate $806 + 159 + 350$.
- 27 Discount \$80 by 10%.
- 28 Calculate $152371 - 115734$ in a word problem.
- 29 Estimate $3/19$ of 60.
- 30 Identify the position shown on a number line is 1.5.
- 31 Estimate $11/12 + 7/8$.
- 32 Find how many circles will represent 100% if 6 circles represent 80%.

Algebra

- 10 Write an algebraic expression for a word problem.
- 11 Use the gradient of a graph to extrapolate to an unknown value.
- 12 Identify an equation for the number pattern 4, 7, 10...
- 13 Identify relationships in a word problem to solve the problem.
- 33 Find $x + 2$, if $3 + 6 = 21$.
- 34 Calculate speed from a linear distance-time graph.
- 35 Find an algebraic expression that describes a spatial pattern.
- 36 Identify the line graph which shows how depth increases as a bowl fills.

Geometry & Measurement

- 14 Identify which letter has horizontal line symmetry.
- 15 Take 300 grams away from 4.5 kg.
- 16 Find the number of unit cubes in a 3 by 3 cube.
- 17 Write 4,050 cm in metres.
- 18 Visualise what a net will fold to make.
- 19 Find the perimeter of a shape using properties of squares and triangles.
- 37 Identify two equal angles shown on a protractor.
- 38 Calculate the volume of a solid made up of whole and half units.
- 39 Find a missing angle in a right angle.
- 40 Calculate how many degrees a shape can rotate to look the same.
- 41 Identify the scale factor in a 1/3 reduction.
- 42 Calculate angles in triangles using geometric knowledge.

Statistics

- 20 Identify the fairest way to choose a sample.
- 21 Understand how the mean is calculated.
- 22 Interpret composite bar graphs.
- 43 Understand that probabilities are the same when fractions are equivalent.
- 44 Interpret a 2 x 2 table to identify a fraction.
- 45 Interpret a dot plot.

Item	Number Knowledge	Number Strategies	Algebra	Geometry & Measurement	Statistics
1	23				
2	3				
3					
4	26				
5	27				
6	7	8			
7					
8	28				
9	31				
10				14	15
11			33		
12		29			
13	35				
14				14	15
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