Year 7 Numeracy 2016 ANSWERS

Results and item descriptions

The numeracy strands are abbreviated as follows: Number and Algebra (NA); Measurement and Geometry (MG); Statistics and Probability (SP). All items are worth one score point. For the purpose of this report, the SUNLANDA strands of Number and Algebra, Functions and Patterns have been combined as Number and Algebra to reflect the Australian Curriculum strands.

The percentage columns give the facility rate (percentage correct).
These results are based on provisional data.

Calculator-allowed paper

Item	Strand	Answer	Qld%	Aust%	Description
1	NA	D	79.3	80.4	Solves a multistep word problem involving multiplication and addition.
2	NA	A	82.6	83.2	Uses a ratio to solve a problem in context.
3	NA	C	76.7	75.4	Continues an additive sequence in a geometric context.
4	NA	15	82.5	82.4	Solves a word problem by dividing a three-digit number by a two-digit number.
5	MG	D	78.0	79.2	Determines the duration of an event using 12-hour time with a change from am to pm.
6	MG	C	78.4	76.3	Selects the correct measurement unit to measure the mass of a small item.
7	SP	C	62.6	61.5	Calculates probability as a fraction using a spinner.
8	NA	B	71.1	71.3	Adds and subtracts fractions and mixed numbers with related denominators.
9	SP	C	68.4	68.6	Interprets side-by-side column graph for categorical variables.
10	NA	D	71.6	72.6	Converts a fraction to a decimal using technology.
11	MG	B	62.5	62.3	Calculates the perimeter of a composite shape composed of pentagons.
12	NA	A	55.8	55.6	Reasons about properties of square numbers.
13	NA	C	58.0	58.9	Identifies the multiplicative rule used to create a sequence in context.
14	NA	45.25	65.1	65.9	Multiplies decimals to solve a problem.
15	NA	B	46.0	45.4	Estimates the cost of an item given the total and the cost of other items.
16	NA	A	51.2	49.6	Locates and represents positive and negative fractions and mixed numbers on a number line.
17	NA	D	56.7	57.9	Adds and multiplies large whole numbers to solve problems.
18	SP	B	43.8	44.9	Determines the probability of an event.
19	NA	C	45.2	47.1	Determines the best buy by calculating the least cost per gram of the item.

Item	Strand	Answer	Qld%	Aust%	Description
20	SP	20	28.5	31.4	Calculates the mean for a set of data in context.
21	NA	B	41.7	42.5	Solves a ratio problem that includes fractions and decimals.
22	MG	250	40.7	41.9	Converts from litres to millilitres.
23	NA	A	41.7	42.8	Determines the best buy by calculating the sale prices using fraction and percentage off the original prices.
24	MG	A	39.2	39.3	Describes the transformations used to move a shape on the Cartesian plane.
25	MG	A	27.4	28.3	Calculates the dimensions of a rectangular prism from its height and volume.
26	MG	135	37.1	37.8	Determines the size of an unknown angle using angles on a straight line.
27	NA	49	15.6	17.0	Recognises a pattern that involves addition of numbers with decimals in a context.
28	MG	D	26.4	29.1	Identifies corresponding angles.
29	NA	101	17.0	19.6	Uses reasoning and efficient strategies to solve a problem involving all four operations with whole numbers.
30	NA	12	10.1	12.2	Solves a ratio problem using multiplication.
31	MG	C	24.8	24.3	Describes the location of points on the Cartesian plane.
32	MG	6000	8.3	10.3	Calculates the area of a trapezium.

Non-calculator paper

Item	Strand	Answer	Qld%	Aust%	Description
1	MG	C	89.1	89.2	Uses compass directions to identify the correct cell on a map.
2	NA	B	85.9	86.5	Uses properties of even numbers to identify whether a sum will be odd or even.
3	NA	B	83.8	84.7	Calculates a fraction of a whole number where the answer is also a whole number.
4	SP	A	87.6	87.1	Identifies the number of animals in a data display, with a key of one to many.
5	MG	B	84.5	85.7	Converts a measurement of metres and centimetres to metres alone.
6	SP	80	65.9	67.4	Calculates the probability of a complementary event.
7	MG	A	71.7	72.0	Determines the coordinates of a point after a translation on the Cartesian plane.
8	SP	C	83.1	84.0	Identifies a dot plot given a data set in context.
9	SP	C	76.3	73.8	Interprets a graph to determine the total number of data points in a data set.
10	MG	D	64.4	66.5	Uses the properties of symmetrical shapes to determine the shape of an item screened along a line of symmetry.

Item	Strand	Answer	Qld%	Aust%	Description
11	NA	B	67.4	69.2	Identifies the third number in a pattern that results from subtracting 0.15 starting at 1.95.
12	MG	E	63.7	65.5	Calculates elapsed time from am to pm, by converting hours and parts of hours to minutes.
13	NA	3.1	60.4	62.6	Divides a decimal by a whole number in context.
14	NA	D	58.7	59.5	Solves a multistep problem involving a tally and multiplication.
15	NA	D	57.4	58.3	Selects an algebraic expression to describe a word problem.
16	SP	A	51.3	55.0	Identifies the outcome of an event where some cannot happen if the others happen.
17	NA	750	49.0	47.9	Multiplies a decimal by a power of 10.
18	MG	D	52.6	54.2	Determines the position of an image after a combination of a reflection and rotation.
19	NA	C	55.5	58.5	Selects the estimated cost of four items within a range.
20	NA	C	48.5	51.4	Compares two fractions with unlike denominators to say which is larger.
21	NA	A	66.7	67.4	Selects an algebraic expression to represent a word problem.
22	MG	B	41.2	40.4	Classifies triangles according to their angle properties.
23	NA	405	28.9	31.6	Extends a multiplicative pattern to give the next term in the sequence.
24	SP	6	39.1	39.2	Determines the difference in the observed and the expected frequency of an event.
25	NA	D	33.5	34.7	Divides a whole number by a fraction to solve a word problem.
26	MG	A	30.8	30.6	Calculates perimeters of rectangles from their side lengths.
27	NA	22.05	18.8	19.2	Calculates the sale price given the percentage off.
28	NA	36	26.7	26.6	Identifies a two-digit number that is a square number and is a multiple of two given numbers.
29	NA	16.6	21.3	23.1	Multiplies a decimal by a whole number.
30	MG	D	21.2	23.5	Compares the areas of rectangles after enlargements of both length and width.
31	NA	3	13.6	15.6	Solves a multistep problem involving prime numbers and factors.
32	MG	36	8.5	9.8	Determines the number of edges of a truncated cube.