Linear and non-Linear Relationships

ACMNA296 – Assessment

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Name:

Score:

Teacher:

| | Assessment | Navigator | Student | 30 min |

Q.1. Which rule would produce the table of values:

x:	0	1	2	3	4
y:	3	5	7	9	11

a) $y = x$ b) $y = 2x + 1$ c) $y = 2x + 3$ d) $y = x^2 + 3$ e) $x^2 + y^2 = 9$

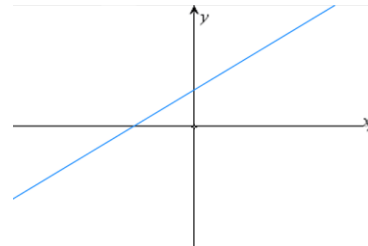**Q.2.** Determine the missing number (a) from the table:

x:	1	2	5	10
y:	2	5	a	29

Q.3. From the table, write a rule relating x and y:

x:	2	4	6	8
y:	0	8	16	24

Q.4. The equation for the graph opposite could be:

a) $y = x^2 + 3$ b) $x^2 + y^2 = 4$

c) $y = 2x - 4$ d) $y = 3x + 3$

e) $x + y = 3$

Q.5. Which rule would produce the table of values:

x:	0	1	2	3
y:	4	5	8	13

a) $y = x$ b) $y = x + 4$ c) $xy - 4x + 4 = y$ d) $y = 4x^2 + 4$ e) $y = x^2 + 4$

Q.6. Determine the missing number (a) from the table:

x:	0	1	2	3
y:	0	a	16	36

TEXAS INSTRUMENTS

Q.7.   Let **shape** = *x* and **blocks** = *y*. Write a rule below for *y* in terms of *x*.

Shape = 1 Blocks = 1	Shape = 2 Blocks = 5	Shape = 3 Blocks = 9	Shape = 4 Blocks = 13
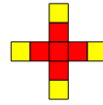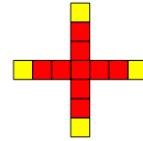
Q.8.   Write a rule for the sum (*y*) of the first (*x*) odd numbers. The diagrams below may help formulate an answer.
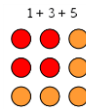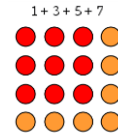
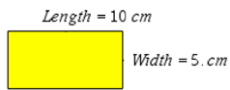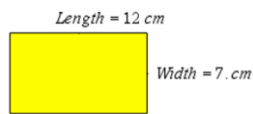| Sum of first '1' odd numbers.	Sum of first '2' odd numbers.	Sum of first '3' odd numbers.	Sum of first '4' odd numbers.
1	1 + 3	1 + 3 + 5	1 + 3 + 5 + 7

Q.9.   A rectangle is 5 units longer than it is wide. Write a rule for the **area** (*a*) of the rectangle in terms of the **width** (*w*). The sequence of examples below may help formulate an answer.
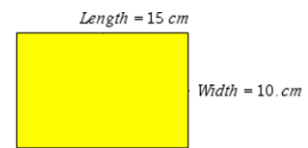
Width = 5cm	Width = 7cm	Width = 10cm
Length = 10 cm Width = 5.cm	Length = 12 cm Width = 7.cm	Length = 15 cm Width = 10.cm

Q.10.   Let **shape** = *x* and **blocks** = *y*. Write a rule below for *y* in terms of *x*.
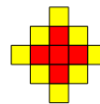
Shape = 1 Blocks = 1	Shape = 2 Blocks = 5	Shape = 3 Blocks = 13	Shape = 4 Blocks = 25

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