Algebra Assessment

ACMNA176

Q.1. If $y = 2x + 1$ and $x = 1$ then *y* is equal to:

a) 1   b) 2   c) **3**   d) 4   e) 5

Q.2. If $a = 4b - 3$ and $b = 2$ then *a* is equal to:

a) 1   b) **5**   c) 8   d) 11   e) 39

Q.3. If $y = 20 - 3x$ and $x = 2$ then *y* is equal to:

a) 2   b) 6   c) 14   d) **26**   e) 34

Q.4. A number is multiplied by 5 and 3 is added to the result. Which expression best represents this process:

a) 5 + 3   b) $5 + a + 3$ c) $\times 5 + 3$ d) $3x + 5$ e) **$5x + 3$**

Q.5. A quantity **a** is multiplied by 4 and then 2 is subtracted. Write this as an expression.

Answer: $4a - 2$

Q.6. A bowl of fruit contains 4 apples and 5 bananas. Let *a* represent the quantity of apples and *b* the quantity of bananas. Write an **expression** in terms of *a* and *b* for the total amount of fruit in the bowl:
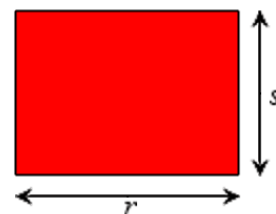
Answer: $a + b$

Q.7. There are 24 students in a class of boys (b) and girls (g). Write an equation for the number of girls in the class, start your equation with g =
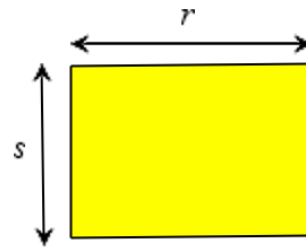
Answer: $g = 24 - b$

Q.8. Use *r* and *s* to write an **equation** for the **perimeter** of the rectangle shown opposite.
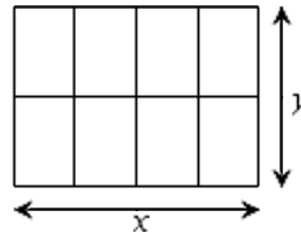
Start your equation with *p* =

Answer: $p = 2r + 2s$ or $p = 2(r + s)$

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TEXAS INSTRUMENTS

Q.9.   Use *r* and *s* to write an **equation** for the **area** of the rectangle shown opposite.

Start your equation with *a* =

Answer: $a = r \times s$

Q.10.   A wooden frame is made as shown. Write an **equation** for the **total** length of wood (*w*) in terms of the lengths *x* and *y*.

Start your equation with *w* =

Answer: $w = 5y + 3x$

Q.11.   Write an equation relating the numbers in row ***a*** and ***b***.

Start with ***b*** =

a	0	1	2	3
b	3	5	7	9

Answer: $b = 2a + 3$

Q.12.   Write an equation relating the numbers in row ***c*** and ***d***.

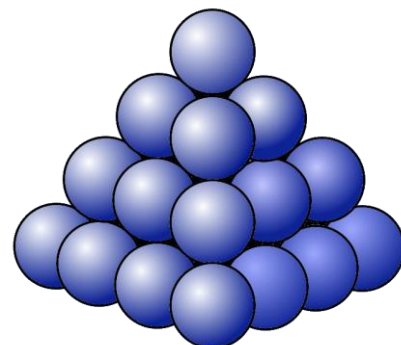Start with ***d*** =

c	0	2	5	9
d	5	11	20	32

Answer: $d = 3a + 5$

Q.13.   The ball pyramid shown has 4 levels. The total number of balls in any such pyramid of *p* levels is equal to:

$$\frac{p \times (p+1) \times (2p+1)}{6}$$

How many balls in a pyramid 10 balls high?

Answer: 385

TEXAS INSTRUMENTS