15) Question: in the following expression,
    $pqx^2+(-p+q)x$ -1 $= 10x^2 +3x$ -1
what values can q take?
A) -2 and 0
B) 2 and 0
C) 0 and 5
D) -2 and 5
nw,nc

For speed, while solving something similar, only THINK the words in blue; WRITE only the words in other COLORS.

Given: 1) the expression,
            $pqx^2+(-p+q)x$ -1 $= 10x^2 +3x$ -1   . . . . equation #1
Solve: What values can q take??

Road Map of Solution:
First   Step: Compare the coefficients for x^2 and x in LHS and RHS in equation #1 above.
Second Step: Find amount charged on credit card in terms of Sale   Price.
Third   Step: Find amount charged on credit card in terms of Original Price.
Fourth Step: Rewrite the equation created for 3rd step to show the original price of the dress in terms of "d".

First   Step: Compare the coefficients for x^2 and x in LHS and RHS in equation #1 above.
    pqx^2 $= 10x^2$ . . . . equation #2
    and
    $(-p+q)x$ = 3x   . . . . equation #3

from equation #2, we get,
    pq = 10   . . . . equation #2b

and from equation #3, we get,
    $(-p+q)$ = 3   . . . . equation #3b
⇒   -p+q   = 3
⇒   -3+q   = p   . . . . equation #3c

Substituting the value of "p" from eq #3c into eq # 2b, we get
    pq = 10
    $(-3 +q)q$ = 10
    $-3q+q^2$ = 10
    $-3q+q^2$ -10 = 10 -10
    $-3q+q^2$ -10 = 0
    q^2-3q -10 = 0
    $1×q^2-3q$ -10 = 0   (1) × (-10) = -10
                                                                                        = (-5)× (2)
    $q^2-5q+2q$ -10 = 0
    $q(q -5) +2(q - 5)$= 0
    $(q +2)$ × $(q - 5)$= 0   . . . . equation #2c