Equivalent Expressions Worksheets

1. Write equivalent expressions by combining like terms. Then, verify the equivalence of your expression to the given expression by evaluating for the value(s) given in each problem.

$a)$ $3(6a)$; for $a = 3$ b) $5d(4)$; for $d = -2$

$c)$ $(5r)(-2)$; for $r = -3$ d) $3b(8) + (-2)(7c)$; for $b = 2, c = 3$

e) $9(4p) - 2(3q) + p$; for $p = -1, q = 4$

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$a)$ $3(6a)$; for $a = 3$

$18a$ $3(6(3))$
$18(3)$ $3(18)$
54 54

b) $5d(4)$; for $d = -2$

$20d$ $5(-2)(4)$
$20(-2)$ $-10(4)$
-40 -40

$c)$ $(5r)(-2)$; for $r = -3$

$-10r$ $(5(-3))(-2)$
$-10(-3)$ $(-15)(-2)$
30 30

d) $3b(8) + (-2)(7c)$; for $b = 2, c = 3$

$24b - 14c$ $3(2)(8) + (-2)(7(3))$
$24(2) - 14(3)$ $6(8) + (-2)(21)$
$48 - 42$ $48 + (-42)$
6 6

e) $9(4p) - 2(3q) + p$; for $p = -1, q = 4$

$37p - 6q$ $9(4(-1)) - 2(3(4)) + (-1)$
$37(-1) - 6(4)$ $9(-4) + (-2(12)) + (-1)$
$-37 + (-6(4))$ $-36 + (-24) + (-1)$
$-37 + (-24)$ $-60 + (-1)$
-61 -61