Algebra I
2-6
Multiplication

Contrast between Addition and Multiplication

When Adding:
a) two negatives make a: __NEGATIVE__

b) a negative and a positive make: __Depends on "larger"__

c) Are like terms required? __Yes__
     example: $7x + 3y$ can't do $7x + 3x = 10x$

When Multiplying:
a) two negatives make a: __Positive__

odd # neg → neg
even # neg → pos

b) a negative and a positive make: __Negative__

c) Are like terms required? __No__
     example: $7x \cdot 3y = 21xy$

Multiply. (pg 72)

5) $(-3)(-7)(-4)$
$21(-4)$
-84

13) $(-2a)(-3b)$
$6ab$

19) $-2(x - 3y)$
$-2x + 6y$

29) $-[(-2)(a + b)]$
$-[-2a - 2b]$
$2a + 2b$

31) $5x - 7x + 8 + 2x$
$5x + 8 + 2x$
8

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43) $-\frac{3}{3}m + \frac{2}{3}m - \frac{1}{2}n + \frac{5}{2}n$
$= -\frac{1}{3}m + \frac{4}{2}n$ Reduce!
$-\frac{1}{3}m + 2n$

When adding fractions, you must get a common denominator. The -1 in front of the m is -3/3.

45) $7 - 3(r + s)$
$7 - 3r - 3s$
No terms match!
$-3r - 3s + 7$

The common mistake in 45 is to do 7-3 first. Orders of Operations require you to multiply -3 with the distributive property.

Terms should be written in alphabetical order with constant terms at the rear.

Try on your own!

53) $2[-7(r + 2s) - r] - 3(s + 2r)$
$2[-7r - 14s - r] - 3s - 6r$
$2[-8r - 14s] - 3s - 6r$
$-16r - 28s - 3s - 6r$
$-22r - 31s$

Terms should be written in alphabetical order with constant terms at the rear. (This one has no constant term).

-22r+7s
-14r+7s
5r -17s-2
5r -16s-2
-14r -17s+2
-6r +22s

Pg 72
2-56 even