

Pg 81; 1-5; 13-33 (0): pg. 82, 37-49 (0)

1) B 2) 0 3) A 4) C (41) 10

5) $-5+9=4$ (43) 0

13) 7 15) C 17) B (45) 5

19) -6 21) -11 23) -4 (47) 4

25) 6 27) 7 29) 11 (49) $-2\frac{4}{7}$

31) 3 33) -31

(37) commutative property

(39) property of opposites

Pg. 89-90; 15-53 (0)

15) 9 31) -1 45) $-6.5, -7.5, -8.5, -9.5$

17) -11 33) 31 47) $-2\frac{1}{2}, -1\frac{1}{2}, -\frac{1}{2}, \frac{1}{2}$

19) 39 35) -43 49) $-x, -7$

21) 36 37) 10.2 51) $9, -28x$

23) 9.2 39) 1 53) $a, -5$

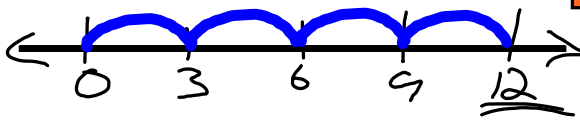
25) -1.2 41) $1\frac{1}{10}$ 43) 14, 13, 12, 11

27) 3 47) $-2\frac{1}{2}, -1\frac{1}{2}, -\frac{1}{2}, \frac{1}{2}$

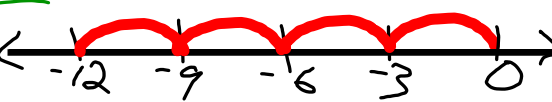
29) $-4\frac{1}{2}$ 51) $9, -28x$

2.5. Multiplying
Real Numbers

Sept. 27, 2006

$$3 \cdot 4 = \underline{12}$$
A horizontal number line with arrows at both ends. It is marked with tick marks and labels at 0, 3, 6, 9, and 12. Four blue arcs are drawn above the line, each starting from a tick mark and ending at the next one to the right: from 0 to 3, 3 to 6, 6 to 9, and 9 to 12. The number 12 at the end of the line is underlined.

$$3 \cdot 4 \cdot 5 = \underline{60}$$

$$-3 \cdot 4 = \underline{-12}$$
A horizontal number line with arrows at both ends. It is marked with tick marks and labels at -12, -9, -6, -3, and 0. Four red arcs are drawn above the line, each starting from a tick mark and ending at the next one to the right: from -12 to -9, -9 to -6, -6 to -3, and -3 to 0. The number -12 at the end of the line is underlined.

$$-3 \cdot -4 = \underline{12}$$

$$-(- (3 \cdot 4))$$

$$-3 \cdot -4 \cdot -2 = \underline{-24}$$

The Rule

- A product is Negative, if it has an odd Number of Negative factors.
- A product is Positive, if it has an even Number of Negative factors.

$$\text{ex1)} -4(5) = \underline{\underline{-20}}$$

$$\text{ex2)} -2(5)(-3) = \underline{\underline{30}}$$

$$\text{ex3)} -10(-2)(-4) = \underline{\underline{-8}}$$

$$\begin{aligned} \text{ex4)} (-2)^4 &= (-2)(-2)(-2)(-2) \\ &= \underline{\underline{16}} \end{aligned}$$

Products w/ Variable Factors

Simplify : No Grouping Symbols

$$\text{ex 1)} \quad -2(-x) = \underline{\underline{2x}}$$

$$\text{ex 2)} \quad 4(-n)(-n)(-n) = \underline{\underline{-4n^3}}$$

$$\text{ex 3)} \quad -1(-a)^2 = -1(-a)(-a) = \underline{\underline{-1a^2}}$$

$$\text{ex 4)} \quad -7(-b)^3 = -7(-b)(-b)(-b) = \underline{\underline{7b^3}}$$

ex5

$$2x \cdot -1(-a) = \underline{\underline{2ax}}$$

ex6

$$-4(x)^2 \cdot 5x \cdot 2x = \underline{\underline{-40x^4}}$$

Evaluate

1st way
 $-4(-1)(-x)$ when $x = \underline{-5}$

$$-4(-1)(-x) = -4(-1)(-(-5)) = \underline{\underline{20}}$$

2nd way

$$-4(-1)(-x) = -4x = -4(-5) = \underline{\underline{20}}$$

O.T.L.

① pg 94: Blue Box: "Prop. of Multi"
in your N.B.

② Pg 96-97: 17-45(0), 55

*for #55 you may need
to use ex 4 on pg 95 for help.