◆ **Thm F3**

$$a \cdot (-b) = -(a \cdot b)$$

[05-12-04D-T7]

F3

Work the following using only theorems up to F3, axioms, and definitions.

You must show every step. Write the justification, but only for those steps that use theorems.

■ **A. Solve the following for *x*. Use the theorem F3 wherever you can.**

[1] $x = 2(-5)$

[2] $x = -6(3)$

[3] $-(3x) = -3$

[4] $5x = -5 \cdot 3$

[5] $6x = -30$ (Hint: $30 = 6 \cdot 5$)

[6] $3x - 6 + 3 = 3 + -2(x + 3) + 15$

[7] $-5[3(x + 1)] + 7 = 20 - 15 + 7$

[8] $x = -[1 \cdot (2x + 5)]$

[9] $-2x + x = -(2x) + 3$

[10] Prove theorem F3.

■ A. Answers

[1] $x = -10$

[2] $x = -18$

[3] $-(3\,x) = 1$

[4] $x = 3$

[5] $x = -5$

[6] $x = 3$

[7] $x = -\frac{4}{3}$

[8] $x = -\frac{5}{3}$

[9] $x = 3$