

**problem set  
95**

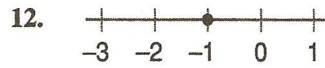
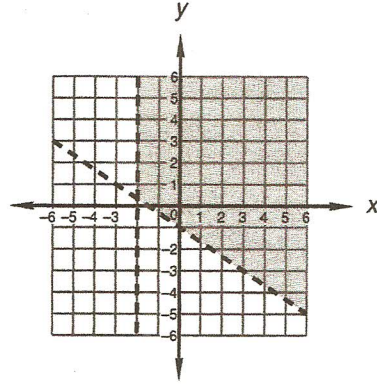
1. 48 km    2. 800 ml    3. 738.27 ml

4.  $R_J = 30$  mph;  $R_R = 90$  mph;  $T_J = 16$  hr;  $T_R = 4$  hr    5.  $B = 12$  mph;  $W = 3$  mph

6.  $\left(\frac{3}{8} + \frac{\sqrt{105}}{8}, -\frac{3}{2} + \frac{\sqrt{105}}{2}\right)$  and  $\left(\frac{3}{8} - \frac{\sqrt{105}}{8}, -\frac{3}{2} - \frac{\sqrt{105}}{2}\right)$

7.  $(\sqrt{5}, \pm\sqrt{11}), (-\sqrt{5}, \pm\sqrt{11})$     8. (1, -2, -7)    9. a, d    10. Two complex roots

11.



13.  $a^{-x/2+1}x^a$     14.  $\frac{x(4+x)}{32+4x}$

15.  $\frac{5(2x+2)}{5x+4}$     16.  $-\frac{15}{17} - \frac{8}{17}i$

17.  $-1 + 4i$     18. 3

19.  $23.83R - 6.88U = 24.80/-16.10^\circ$

20.  $-23 + 16\sqrt{2}$     21.  $\frac{2 - \sqrt{2}}{2}$

22.  $\frac{ampq + bmpq - qx}{px}$

23.  $\frac{qx}{amq + bmq - rx}$

24.  $4 + 3i$

25.  $\frac{-79\sqrt{21}}{21}$

26.  $1 \pm \sqrt{5}$

27. 13 liters

28.  $y = -\frac{3}{2}x + 8$

29. (a) 11    (b) 5

30.  $\frac{(30)(5280)(12)(2.54)}{(60)(60)} \frac{\text{cm}}{\text{sec}}$