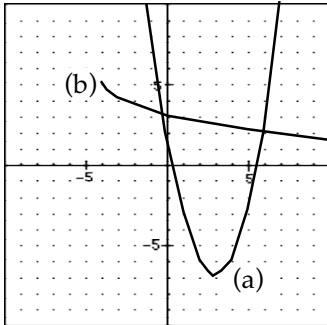


Problem Set 54 — Even Answers

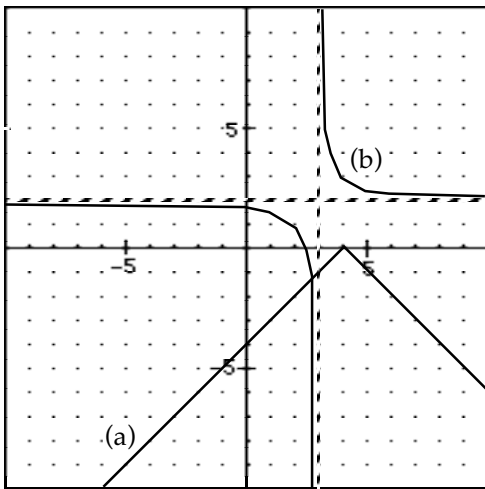
2. $P(L \cup S) = \frac{3}{4}$

4. $R_T = 90 \text{ kph}, \quad T_T = 3 \text{ hr}$
 $R_M = 70 \text{ kph}, \quad T_M = 6 \text{ hr}$

6. $\frac{15}{25}$

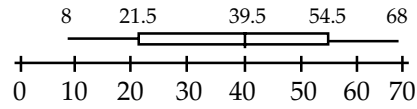


8.



10.

12. $x = -\frac{1}{3} \pm \frac{\sqrt{13}}{3}$
 $\approx -1.535, 0.869$



14.

range = 60, $\bar{x} = 38$,
 median = 39.5, mode = 19
 $Q_1 = 21.5, \quad Q_3 = 54.5$,
 $\sigma = 18.086$

16. $x = \frac{4}{\tan 38^\circ} \approx 5.120$

$p = \frac{4}{\sin 38^\circ} \approx 6.497$

18. $\approx 4 \times 10^{-32}$

20. $4(5280)^2 \text{ ft}^2 = 111,513,600 \text{ ft}^2$

22a. $(f + g)(x) = \sqrt{x-3} + \frac{1}{x-2}$

b. $\{x \in \mathcal{R} \mid x \geq 3\}$

c. \emptyset

24. $\frac{ax+1}{ax^2+x+a^2}$

26. $5x^{10}y^5$

28. $A = (48 + 6\pi) \text{ in}^2 \approx 66.850 \text{ in}^2$

$P = (8 + 4\sqrt{3} + 6\pi) \text{ in}$
 $\approx 41.272 \text{ in}$

30. $\frac{x^2 - 9x + 13}{(x-3)(x-3)}$