Pg. 198: 9-37 odd
41-45 odd

Algebra (Section 3.5)

9. $m = \{0, 1, 2, 3\}$

$\{m \mid m \text{ is an integer}, -1 < m < 4\}$

11. $p = \{10, 9, 8, 7, 6, 5, 4, 3, 2, 1\}$

$\{p \mid p \text{ is a natural number}, p < 11\}$

13. $4y + 7 \geq 23$

$-7 \quad -7$

$\frac{4y}{4} \geq \frac{16}{4}$

$y \geq 4$ $\{y \mid y \geq 4\}$

15. $13 - 9m < 58$

$-13 \quad -13$

$\frac{-9m}{-9} < \frac{45}{-9}$

$m < -5$ $\{m \mid m < -5\}$

17. $2(3p - 11) \geq -16$

$6p - 22 \geq -16$

$+22 \quad +22$

$\frac{6p}{6} \geq \frac{6}{6}$

$p \geq 1$ $\{p \mid p \geq 1\}$

19. $\{a, e, i, o\}$

$\{a\}, \{e\}, \{i\}, \{o\}$

$\{a, e\}, \{a, i\}, \{a, o\}, \{e, i\}, \{e, o\}, \{i, o\}$

$\{a, e, i\}, \{a, i, o\}, \{e, i, o\}, \{a, e, o\}$

$\{a, e, i, o\}$

$\{\emptyset\}$

21. $\{dog, cat, fish\}$

$\{dog\}, \{cat\}, \{fish\}$

$\{dog, cat\}, \{cat, fish\}, \{dog, fish\}$

$\{dog, cat, fish\}$

$\{\emptyset\}$

23. $\{1\}$

$\{1\}, \{\emptyset\}$

25. $A' = \{1, 4, 5\}$

27. $R' = \{-2, 0, 2\}$

29. $A' = \{Tuesday, Thursday, Friday, Saturday\}$

31. False, elements in U are not in B

33. True, empty set is always a subset

35. $\{m \mid m$ is an odd integer $\}$

41. $-2(3x+7) > -14-6x$

$-6x-14 > -14-6x$

$+6x \qquad +6x$

$-14 > -14$

$\{\emptyset\}$

37. $\{G \mid G$ is an integer $\}$

43. $-3(4x+8)+1 \geq -23$

$-12x-24+1 \geq -23$

$-12x-23 \geq -23$

$+23 \qquad +23$

$\frac{-12x}{-12} \leq \frac{0}{-12}$

$x \leq 0 \qquad \{x \mid x \leq 0\}$

45. $-3(4x+8)+1 < -23-12x$

$-12x-24+1 < -23-12x$

$+12x \qquad +12x$

$-24+1 < -23$

$-23 < -23 \qquad \{\emptyset\}$