Exercise Set 2.1 **1.** Terms **3.** Isolate **5.** Identity **7.** Contradiction **9.** $\emptyset$ **11.** Symmetric property **13.** Transitive property **15.** Reflexive property **17.** Addition property of equality **19.** Multiplication property of equality **21.** Multiplication property of equality **23.** Addition property **25.** One **27.** Three **29.** Two **31.** Zero **33.** One **35.** Seven **37.** Twelve **39.** Cannot be simplified **41.** $-2x^2 + 2x - 3$ **43.** $8.7c^2 + 3.6c$ **45.** Cannot be simplified **47.** $-pq + p + q$ **49.** $8d + 2$ **51.** $\frac{8}{3}x + \frac{13}{2}$ **53.** $-17x - 4$ **55.** $11x - 6y$ **57.** $-9b + 93$ **59.** $4r^2 - 2rs + 3r + 4s$ **61.** 3 **63.** $\frac{15}{2}$ **65.** 2 **67.** 16 **69.** 5 **71.** $\frac{3}{5}$ **73.** 1 **75.** 0 **77.** 3 **79.** -1 **81.** 5 **83.** 5 **85.** -1 **87.** $-\frac{1}{2}$ **89.** 6 **91.** 2 **93.** 68 **95.** -35 **97.** -4 **99.** 24 **101.** 10 **103.** -4 **105.** $\frac{15}{16}$ **107.** 5 **109.** 1.00 **111.** 1.18 **113.** 0.43 **115.** 1701.39 **117.** -1.85 **119.** $\emptyset$; contradiction **121.** $\left\{-\frac{4}{3}\right\}$; conditional **123.** $\mathbb{R}$; identity **125.** $\mathbb{R}$; identity **127.** $\emptyset$; contradiction **129. a)** $\approx$85 people per square mile **b)** $\approx$2026 **131. a)** \$3 trillion **b)** 2014 **133.** $\Delta = \frac{\odot + \square}{*}$ **135.** $\odot = \frac{\otimes - \triangle}{\square}$ **137.** Answers will vary. One possible answer: $x = \frac{5}{2}, 2x - 4 = 1, 4x = 10$ **139.** Answers will vary. One possible answer: $2x - 4 = 5x - 3(1 + x)$ **141.** Answers will vary. One possible answer: $3p + 3 = \frac{3}{2}p + p + 6$ **143.** -22, substitute -2 for a and solve for n. **145. a)** Answers will vary.

b) $|a| = \begin{cases} a \text{ if } a \geq 0 \\ -a \text{ if } a < 0 \end{cases}$ **146. a)** -9 **b)** 9 **147.** -5 **148.** $\frac{4}{49}$