

# Practice, Practice, Practice

(1.1) Simplify:  $\sqrt{\frac{100}{9}}$

(1.2)  $\sqrt{72}$

(1.3)  $\sqrt{\frac{3x^7y}{27xy^3}}$

(1.4)  $-\frac{\sqrt{98}}{\sqrt{8}}$

(1.5)  $\sqrt{z^2 + 2z + 1}$

(1.6) Solve:  $x^2 - 81 = 0$

(1.7) Solve:  $12a^2 = 75$

(1.8) Solve:  $x^2 = 320$

(1.9)  $\frac{6\sqrt{2}}{\sqrt{15}}$

(1.10)  $\sqrt{75} - \sqrt{48}$

(1.11)  $\sqrt{3} \cdot \sqrt{\frac{45}{32}}$

(1.12)  $\sqrt{\frac{21}{2}} + \sqrt{\frac{3}{14}}$

(1.13)  $(1 + \sqrt{5})(1 - 2\sqrt{5})$

(1.14)  $\sqrt{x}(\sqrt{x^5} - \sqrt{4x})$

(1.15)  $\sqrt{6}(\sqrt{18} - \sqrt{\frac{1}{2}})$

(1.16)  $\frac{4}{1 - \sqrt{3}}$

(1.17) Solve:  $\sqrt{\frac{a}{3}} - 2 = 2$

(1.18)  $\sqrt{4x-1} = \frac{1}{2}$

(1.19)  $\sqrt{2x^2 - 3} = 1$

(1.20) Find the range given the domain  $\{-3, -2, -1, 0, 1, 2, 3\}$  for the inequality:  $x^2 > x$

(1.21)  $2(2b + \frac{1}{4}) \geq \frac{5}{4}(b - 15)$

(1.22)  $3(3a + 1) < -2(1 - 5a)$

(1.23)  $11 - 8|x| > -13$

(1.24)  $|9 - x| = 0$

(1.25)  $8 > -2 - 3d > -8$

(1.26)  $-8 \leq c - 3 \leq -1$

(1.27) Solve for r:  $s = \frac{a}{1-r}$

(1.28)  $\left(-\frac{20}{3}a^5b^2c\right)\left(\frac{21}{8}ac^3\right)$

(1.29)  $\frac{36r^3s^4 - 8r^4s^3 - 2r^5s^2}{4r^2s}$

(1.30)  $(5x + y)(2x^2 + 4xy - 5y^2)$

(1.31) Factor:  $-16r^3s + 8r^2s - 32rs$

(1.32)  $-30q^3 + 65q^2 - 30q$

(1.33)  $3 + 2x^3 - x^2 - 6x$

(1.34)  $(x-1)^2 - 4y^2$

(1.35)  $16c - c^9$