

# Honors Geometry - Equations Review Homework

Key

R 296 # 1-3, 8-10, 14-16, 17-20

$$\begin{aligned} \textcircled{1} \quad m^2 - 26m + 169 &= 0 \\ (m - 13)^2 &= 0 \\ m &= \pm 13 \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad 5q^2 + 35q &= 0 \\ (5)(q)(q+7) &= 0 \\ q &= 0 \text{ or } 7 \end{aligned}$$

$$\begin{aligned} \textcircled{3} \quad 3c^2 + 7c + 2 &= 0 \\ (3c+1)(c+2) &= 0 \\ c &= -\frac{1}{3} \text{ or } -2 \end{aligned}$$

$$\begin{aligned} \textcircled{8} \quad z^2 &= 160 \\ z &= \pm \sqrt{160} \\ z &= \pm 4\sqrt{10} \end{aligned}$$

$$\begin{aligned} \textcircled{9} \quad 81 &= (a+4)^2 \\ \pm 9 &= a+4 \\ -4 \pm 9 &= a \\ 5, -13 &= a \end{aligned}$$

$$\begin{aligned} \textcircled{10} \quad s^2 &= \frac{200}{9} \\ s &= \pm \frac{\sqrt{200}}{\sqrt{9}} = \frac{\pm 10\sqrt{2}}{3} \end{aligned}$$

$$\begin{aligned} \textcircled{14} \quad x^2 + 16x + 64 &= -28 + 64 \\ (x+8)^2 &= 36 \\ x+8 &= \pm 6 \\ x &= -14, -2 \end{aligned}$$

$$\begin{aligned} \textcircled{15} \quad w^2 - 4w + 4 &= 11 \\ (w-2)^2 &= 11 \\ w &= 2 \pm \sqrt{11} \end{aligned}$$

$$\begin{aligned} \textcircled{16} \quad t^2 + 7t + \frac{49}{4} &= 30 + \frac{49}{4} \\ (t + \frac{7}{2})^2 &= \frac{169}{4} \\ t &= -\frac{7}{2} \pm \frac{13}{2} \\ t &= 3, -10 \end{aligned}$$

$$\begin{aligned} \textcircled{17} \quad b^2 - 9b - 36 &= 0 \\ b &= \frac{9 \pm \sqrt{81 - 4(-36)}}{2} \\ b &= \frac{9 \pm \sqrt{225}}{2} \\ b &= \frac{9 \pm 15}{2} = (12, -3) \end{aligned}$$

$$\begin{aligned} \textcircled{18} \quad 4f^2 + 5f - 11 &= 0 \\ f &= \frac{-5 \pm \sqrt{25 - (4)(4)(-11)}}{8} \\ &= \frac{-5 \pm \sqrt{201}}{8} \end{aligned}$$

$$\begin{aligned} \textcircled{19} \quad 3u^2 - 8u + 4 &= 0 \\ u &= \frac{8 \pm \sqrt{64 - (4)(3)(4)}}{6} \\ &= \frac{8 \pm \sqrt{16}}{6} \\ &= \frac{8 \pm 4}{6} \\ &= 2, \frac{2}{3} \end{aligned}$$

$$\begin{aligned} \textcircled{20} \quad 5d^2 - 2d - 6 &= 0 \\ d &= \frac{2 \pm \sqrt{4 - (4)(5)(-6)}}{10} \\ &= \frac{2 \pm \sqrt{124}}{10} \\ &= \frac{2 \pm 2\sqrt{31}}{10} \\ &= \frac{1 \pm \sqrt{31}}{5} \end{aligned}$$