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

$9 = b-1$

$\boxed{10 = b}$

(2) $2^2 = (\sqrt{\frac{x}{2}})^2$

$4 = \frac{x}{2}$

$\boxed{8 = x}$

(5) $5^2 = (\sqrt{r-3})^2$

$25 = r-3$

$\boxed{28 = r}$

(4) $(\sqrt{x+4})^2 = 0^2$

$x+4 = 0$

$\boxed{x = -4}$

(3) $(\sqrt{-8-2a})^2 = 0^2$

$-8-2a = 0$

$-2a = 8$

$\boxed{x = -4}$

(6) $(\sqrt{2m-6})^2 = (\sqrt{3m-14})^2$

$2m-6 = 3m-14$

$-2m+14 \quad -2m+14$

$\boxed{8 = m}$

(7) $(\sqrt{8k})^2 = k^2$

$8k = k^2$

$0 = k^2 - 8k$

$0 = k(k-8)$

$\boxed{k = 0, 8}$

(8) $(\sqrt{9-b})^2 = (\sqrt{1-9b})^2$

$9-b = 1-9b$

$-9+9b \quad -9+9b$

$8b = -8 \quad \boxed{b = -1}$

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

$3-2x = 1-3x$

$-3+3x \quad -3+3x$

$\boxed{x = -2}$

(10) $(\sqrt{3k-11})^2 = (\sqrt{5-k})^2$

$3k-11 = 5-k$

$+k+11 \quad +11+k$

$4k = 16$

$\boxed{k = 4}$

(11) $\left((20-r)^{\frac{1}{2}}\right)^2 = r^2$

$20 - r = r^2$

$0 = r^2 + r - 20$ $\quad -20 \quad \hat{} \quad 5 \; -4$

$0 = (r+5)(r-4)$

$r = -5, 4$ $\quad \boxed{r = 4}$

(12) $\left((6b)^{\frac{1}{2}}\right)^2 = \left((8-2b)^{\frac{1}{2}}\right)^2$

$6b = 8 - 2b$

$+2b \qquad +2b$

$8b = 8$ $\quad \boxed{b = 1}$

(13) $\left(\sqrt{56-r}\right)^2 = r^2$

$56 - r = r^2$

$0 = r^2 + r - 56$ $\quad -56 \quad \hat{} \quad 8 \; -7$

$0 = (r+8)(r-7)$

$r = -8, 7$ $\quad \boxed{r = 7}$

(14) $\left(\sqrt{7-10+7p}\right)^2 = p^2$

$-10 + 7p = p^2$

$0 = -p^2 - 7p + 10$ $\quad 10 \quad \hat{} \quad -5 \; -2$

$0 = (p-5)(p-2)$

$\boxed{p = 5, 2}$

(15) $\left((18-n)^{\frac{1}{2}}\right)^2 = \left(\left(\frac{n}{8}\right)^{\frac{1}{2}}\right)^2$

$8(18-n) = \frac{n}{8} \cdot 8$

$144 - 8n = n$

$144 = 9n$ $\quad \boxed{n = 16}$

(16) $\left(\left(2v-7\right)^{\frac{1}{2}}\right)^2 = \left((v-3)^{\frac{1}{2}}\right)^2$

$2v - 7 = v - 3$

$v - 7 = -3$

$v = 4$ $\quad \boxed{v = 4}$

(17) $\left((n-3)^{\frac{1}{2}}\right)^2 = \left((37-3n)^{\frac{1}{2}}\right)^2$

$n - 3 = 37 - 3n$

$+3n \qquad +3$

$4n = 40$ $\quad \boxed{n = 10}$

(18) $\left((-3+4x)^{\frac{1}{2}}\right)^2 = \left((-2-2x)^{\frac{1}{2}}\right)^2 - 1$

$-3 + 4x = -2 - 2x$

$+2x \qquad +2x$

$6x = -2$ $\quad \boxed{x = -\frac{1}{3}}$

$3 < -\frac{1}{3}$

(19) $\left((-3+4x)^{\frac{1}{2}}\right)^2 = \left((1+(-2-2x)^{\frac{1}{2}}\right)^2$

$-3 + 4x = 1 + (-2-2x)^{\frac{1}{2}}$

$-4 \qquad -4$

$-7 + 4x = (-2-2x)^{\frac{1}{2}}$

$(-7+4x)^2 = \left((-2-2x)^{\frac{1}{2}}\right)^2$

$49 - 56x + 16x^2 = -2 - 2x$

$+2 \qquad +2x \qquad +2x$

$51 - 54x + 16x^2 = 0$

$16x^2 - 54x + 51 = 0$

$(x-3)(16x-17) = 0$

$x = 3, \frac{17}{16}$ $\quad \boxed{x = 3}$

(20) $\left((-3+4x)^{\frac{1}{2}}\right)^2 = \left((1+(-2-2x)^{\frac{1}{2}}\right)^2$

$-3 + 4x = 1 + 2(-2-2x)^{\frac{1}{2}} + -2-2x$

$-3 + 4x = -1 + 2(-2-2x)^{\frac{1}{2}}$

$-2 - 2x = 2(-2-2x)^{\frac{1}{2}}$

$(-1-x)^2 = \left((-2-2x)^{\frac{1}{2}}\right)^2$

$1 + 2x + x^2 = -2 - 2x$

$+2 \qquad +2x \qquad +2x$

$3 + 4x + x^2 = 0$

$(x+3)(x+1) = 0$

$x = -3, -1$ $\quad \boxed{x = -1}$

(19) $x = 5 + (3x-11)^{\frac{1}{2}}$

$(x-5)^2 = \left(\sqrt{3x-11}\right)^2$

$x^2 - 10x + 25 = 3x - 11$

$x^2 - 13x + 36 = 0$ $\quad 36$, $-9 \cdot -4$

$(x-9)(x-4) = 0$

$\boxed{x = 9, 4}$

(20) $2 = \sqrt{3b-2} - \sqrt{10-b}$

$(2+\sqrt{10-b})^2 = \left(\sqrt{3b-2}\right)^2$

$(2+\sqrt{10-b})(2+\sqrt{10-b}) = 3b-2$

$4 + 4\sqrt{10-b} + 10 - b = 3b - 2$

$4\sqrt{10-b} + 14 - b = 3b - 2$

$\frac{4\sqrt{10-b}}{4} = \frac{4b-16}{4}$

$\left(\sqrt{10-b}\right)^2 = (b-4)^2$

$10 - b = b^2 - 8b + 16$

$0 = b^2 - 7b + 6$ $\quad 6$, $-1 \cdot -6$

$0 = (b-1)(b-6)$

$b = \cancel{1}, 6$ $\quad \boxed{b = 6}$