10. (a) $3x + 2y = 7 \Rightarrow 2y = 7 - 3x$ so $y = \frac{7}{2} - \frac{3x}{2}$

$2x - 5y = 6$

$2x - 5\left(\frac{7}{2} - \frac{3x}{2}\right) = 6$

$2x - 17.5 + 7.5x = 6$

$9.5x = 6 + 17.5$

$9.5x = 23.5$

$x = 2.47$

$y = \frac{7}{2} - \frac{3(2.47)}{2}$

$y = -0.205$

(b) $0.60x + y - 98 = 0 \Rightarrow y = 98 - 0.60x$

$0.80x - 0.40y - 10 = 0$

$0.80x - 0.40(98 - 0.60x) - 10 = 0$

$0.80x - 39.2 + 0.24x - 10 = 0$

$1.04x = 49.2 \Rightarrow x = 47.3$

$y = 98 - 0.60(47.3)$

$y = 69.6$

(c) $\frac{x}{y} = 0.0924$; $\frac{x^2}{y} = 5.54$

$x = 0.0924y$ so $\frac{(0.0924y)^2}{y} = 5.54$

$\frac{0.00854y^2}{y} = 5.54$

$y = \frac{5.54}{0.00854} = 649$

$x = (0.0924)(649)$

$x = 60.0$

(d) $y\cos(x) = 15.0$; $y\sin(x) = 30.0$

so $\frac{y\sin(x)}{y\cos(x)} = \frac{30.0}{15.0} = 2.00$

$\frac{\sin(x)}{\cos(x)} = 2.00$

$\tan(x) = 2.00$

$x = \arctan(2.00)$

$x = 63.4°$

$y = \frac{15.0}{\cos(x)} = \frac{15.0}{\cos(63.4°)}$

$y = 33.5$