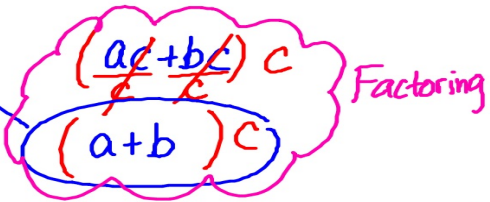


$$1(c) \quad 1-t^2 = \frac{ac+bc}{1}$$



$$\frac{1-t^2}{(a+b)} = \frac{(a+b)c}{(a+b)}$$

$$2(d) \quad 1-t^2 = ac+bc$$

$$-t^2 = ac+bc-1 \quad t = \pm \sqrt{ac-bc+1}$$

$$\sqrt{-t^2} = \sqrt{ac-bc+1}$$

$$-t^2 = -1 \cdot t^2$$

$$⑤ \quad 3x^2 - 5x + 6 = 5$$

$$③x^2 - ⑤x + ① = 0$$

$$\frac{-(-5) \pm \sqrt{(-5)^2 - 4(3)(1)}}{2(3)} = \frac{5 \pm \sqrt{25-12}}{6}$$

$$ax^2 + bx + c = 0 \quad 2(3)$$
$$\frac{-(-b) \pm \sqrt{b^2 - 4(a)(c)}}{2(a)}$$

$$\boxed{\frac{5 \pm \sqrt{13}}{6}}$$

$$\begin{aligned} 6(b) \quad f - g &= 5 & 3f + 2g &= 5 \\ & +g + g & & \\ \hline f &= 5 + g & 3(5 + g) + 2g &= 5 \\ & & 15 + 3g + 2g &= 5 \\ f &= 5 + -2 & 15 + 5g &= 5 \\ \textcircled{f = 3} & & \begin{array}{r} 15 + 5g = 5 \\ -15 \quad -15 \\ \hline 5g = -10 \\ \frac{5g}{5} = \frac{-10}{5} \\ \textcircled{g = -2} \end{array} \end{aligned}$$

$$7(b) \quad v^2 = v_0^2 + 2a\Delta x$$

$$\frac{-v_0^2 - v_0^2}{2\Delta x} = \frac{2a\Delta x}{2\Delta x}$$

$$\boxed{\frac{v^2 - v_0^2}{2\Delta x} = a}$$

$$7(e) \quad T = 2\pi \sqrt{\frac{l}{g}}$$

$$\left(\frac{T}{2\pi}\right)^2 = \left(\sqrt{\frac{l}{g}}\right)^2$$

$$g \cdot \left(\frac{T}{2\pi}\right)^2 = \frac{l}{g} \cdot g$$

$$\boxed{g \left(\frac{T}{2\pi}\right)^2 = l}$$

$$7(h) \quad \frac{1}{f} = \frac{1}{d_o} + \frac{1}{d_i}$$

$$\frac{-\frac{1}{d_o} \quad -\frac{1}{d_o}}{\frac{1}{f} - \frac{1}{d_o}} = \left(\frac{1}{d_i}\right)^{-1}$$

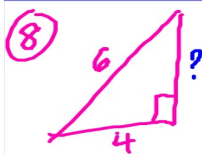
$$\left(\frac{1}{f} - \frac{1}{d_o}\right)^{-1} = \left(\frac{1}{d_i}\right)^{-1}$$

$$\left(\frac{1}{f} - \frac{1}{d_o}\right)^{-1} = d_i$$

$$d_i = \underline{\hspace{2cm}}$$

Inverse
 x^{-1}

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



$$a^2 + b^2 = c^2$$

$$a^2 + (4)^2 = (6)^2$$

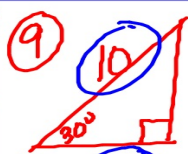
$$a^2 + 16 = 36$$

$$\begin{array}{r} -16 \\ -16 \end{array}$$

$$\sqrt{a^2} = \sqrt{20}$$

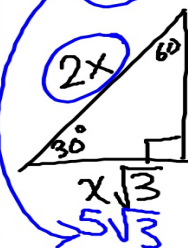
$$a = \sqrt{20} = 2\sqrt{5}$$

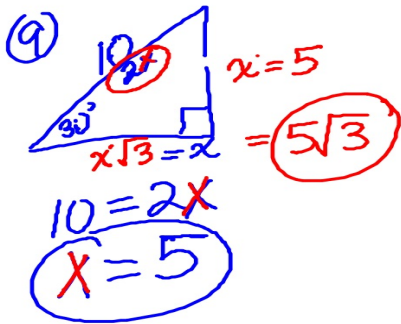
$$a \approx 4.47$$



$$10 = 2x$$

$$5 = x$$





$$\cos \theta = \frac{\text{adj}}{\text{hyp}}$$
$$10 \cdot \cos 30^\circ = \frac{x}{10} \cdot 10$$
$$10 \cdot \cos 30^\circ = x$$
$$\approx 8.7$$

Soh Cah Tua

$o \Rightarrow$ opp

$a \Rightarrow$ adj

$h \Rightarrow$ hyp

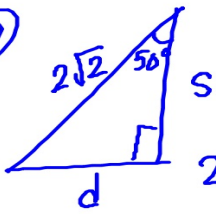
$$\sin \theta = \frac{\text{opp}}{\text{hyp}}$$



$$\cos \theta = \frac{\text{adj}}{\text{hyp}}$$

$$\tan \theta = \frac{\text{opp}}{\text{adj}}$$

(10)



$$d = \underline{\hspace{2cm}}$$
$$\sin \theta = \frac{\text{opp}}{\text{hyp}}$$

$$2\sqrt{2} \sin 50^\circ = \frac{d}{2\sqrt{2}}$$

$$2\sqrt{2} \cdot \sin 50^\circ = d = 2.17$$

$$s = \underline{\hspace{2cm}}$$
$$\cos \theta = \frac{\text{adj}}{\text{hyp}}$$

$$\cos 50^\circ = \frac{s}{2\sqrt{2}}$$

$$\theta = 50^\circ$$

$$\text{opp} = d$$

$$\text{adj} = s$$

$$\text{hyp} = 2\sqrt{2}$$

$$2\sqrt{2} \cos 50^\circ = s$$

$$s = 1.82$$

$2.54\text{cm} = 1\text{in}$
 $12\text{in} = 1\text{ft}$
 $5280\text{ft} = 1\text{mi}$

$$y = mx + b \quad \begin{matrix} (x_1, y_1) \\ (x_2, y_2) \end{matrix}$$

$$\text{slope} = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1}$$

y-intercept

$$b = y_1 - mx_1$$

x	y
3	1
6	2
9	3
12	4
15	5

$y = \frac{1}{3}x = \frac{x}{3}$

$x = 3y$

$m = \text{slope} = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1}$

X	y		x^2
1	2	$2 \times$	1
2	8	$2 \times$	4
3	18	\vdots	9
4	32	\vdots	16
5	50	\vdots	25

