1

(1) $-7+8\div\frac{1}{2}$

$=-7+8\times 2$

$=-7+16=9$

(2) $9a+4b-(a-3b)$

$=9a+4b-a+3b$

$=8a+7b$

(3) $(\sqrt{6}+5)(\sqrt{6}-2)$

$=6+3\sqrt{6}-10$

$=-4+3\sqrt{6}$

(4) $x-7=9(x+1)$

$x-7=9x+9$

$x-9x=16$

$-8x=16$

$x=-2$

↘ $(-16=8x)$

$8x=-16$

$x=-2$

(5) $\begin{cases} 3x+4y=8 \\ x-2y=6 \end{cases}$

$\begin{cases} 3x+4y=8 \\ 2x-4y=12 \end{cases}$

$5x=20$

$x=4$

$4-2y=6$

$-2y=2$

$y=-1$

$\begin{cases} x=4 \\ y=-1 \end{cases}$

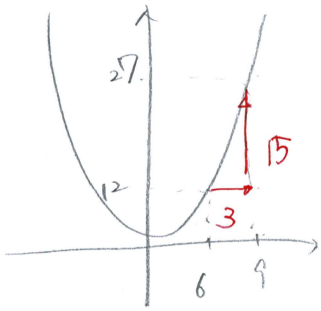
(6) $x^2+5x-3=0$

$x=\frac{-5\pm\sqrt{25-4\cdot(-3)}}{2}$

$x=\frac{-5\pm\sqrt{37}}{2}$ //

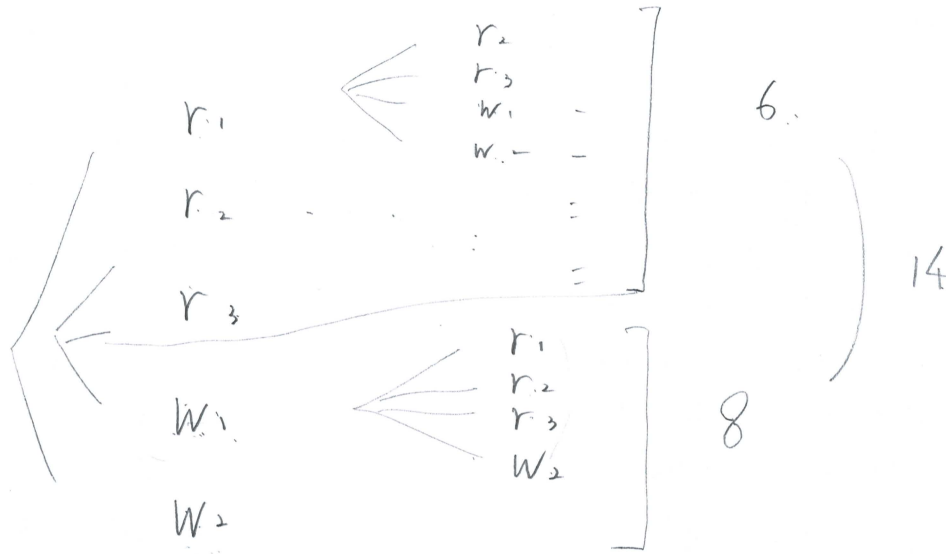
(7)

$y=\frac{1}{3}x^2$



$\frac{15}{3}=5$

(8)

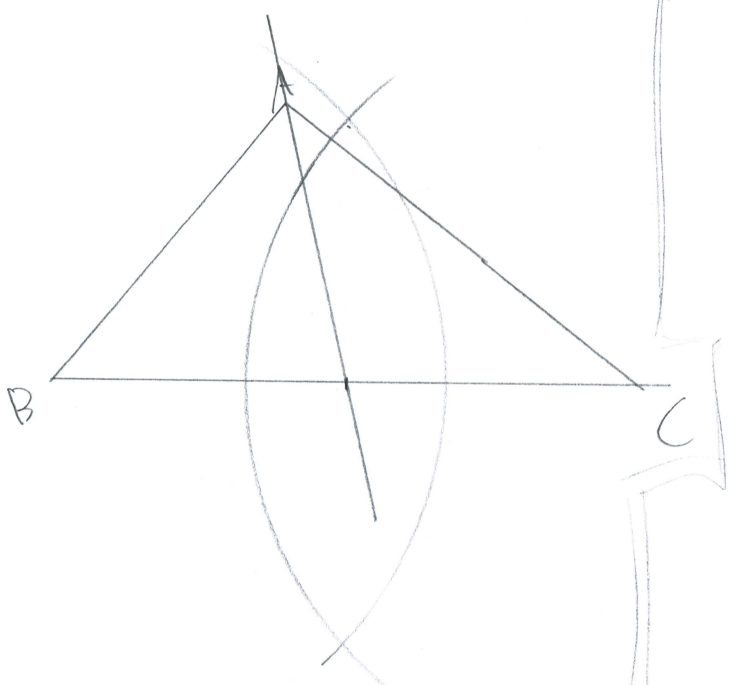


確率 $=\frac{\text{問われてるパターン}}{\text{全部のパターン}}$ 14

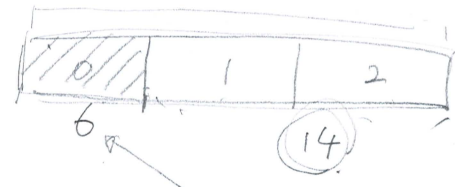
$5\times4=20$

$\frac{14}{20}=\frac{7}{10}$

(9)



$5\times4=20$

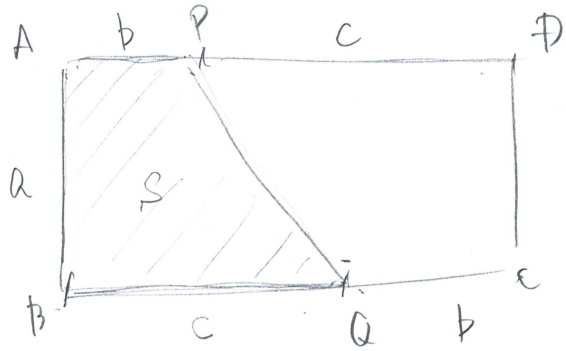


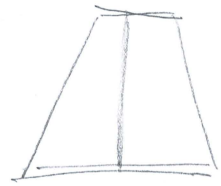
$3\times2=6$

$\frac{14}{20}=\frac{7}{10}$

2

(1)

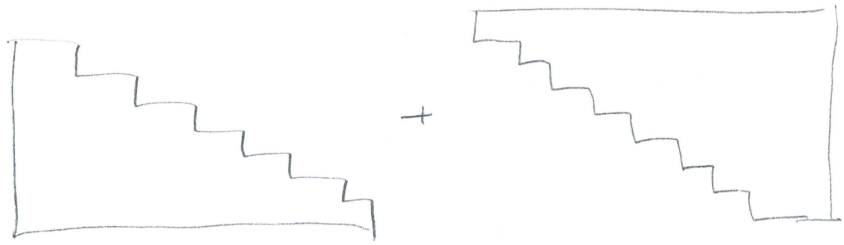




$$S = (b+c) \times a \times \frac{1}{2}$$

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

(2)



Mさんの図を長方形としてみると

縦の長さは n cm

横の長さは $n+3$ cm

よって長方形の面積は $n(n+3)$ cm^2

求めたい面積 T cm^2 は長方形を半分にしたものなので

$$T = \frac{1}{2}n(n+3)$$

H27

3

(1) P(?, -2)

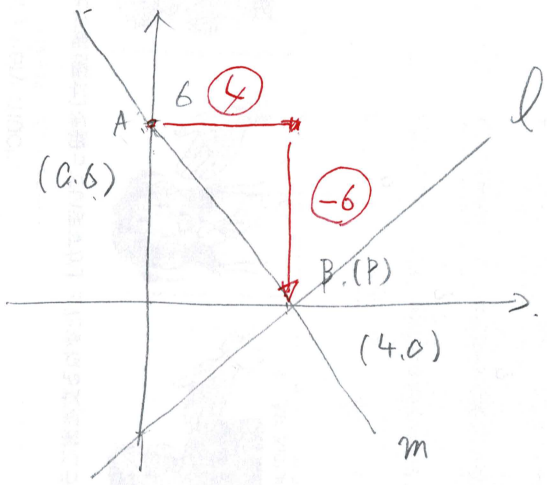
$y = ax + b$

傾き　切片

$l : y = x - 4$

$-2 = x - 4$

$x = 2$



(2) 点P = 点B

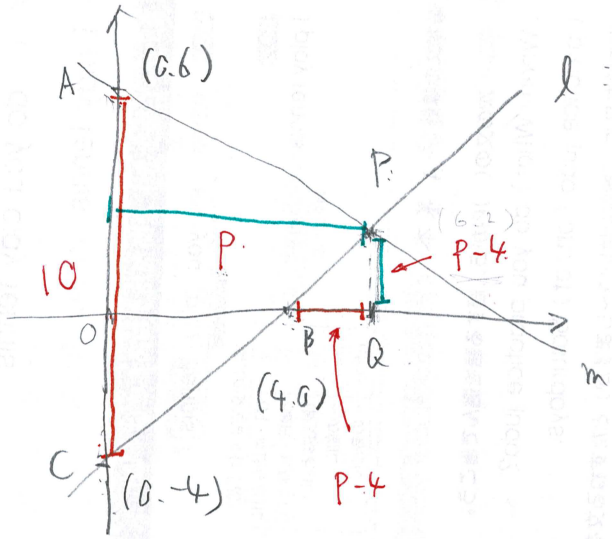
(4,0)

$y = ax + b$

$y = -\frac{3}{2}x + 6$

傾き $= \frac{y\text{の進んだ距離}}{x\text{の進んだ距離}} = \frac{-6}{4} = -\frac{3}{2}$

(3)

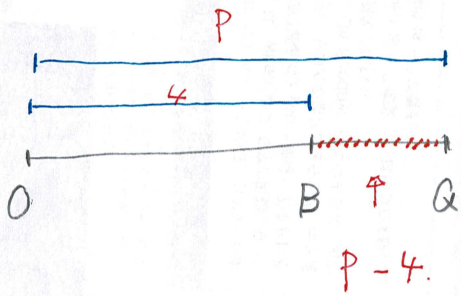


$\ell : y = x - 4$

$\triangle ACP = \triangle BQP \times 5$

⇔

PQの長さ？



Pのx座標 p とする

$y = p - 4$ より Pのy座標 $p-4$

$P(p, p-4)$

$\triangle ACP$ $\quad$ $\triangle BQP$ $\quad \times 5$

$\frac{1}{2} \times 10 \times p \times \frac{1}{2} = (p-4) \times (p-4) \times \frac{1}{2} \times 5$

$2p = (p-4) \times (p-4)$

$2p = p^2 - 8p + 16$

$-10p$

$0 = p^2 - 8p - 2p + 16$

⇔

$p^2 - 10p + 16 = 0$

$p^2 - 10p + 16 = 0$

$(p-2)(p-8) = 0$

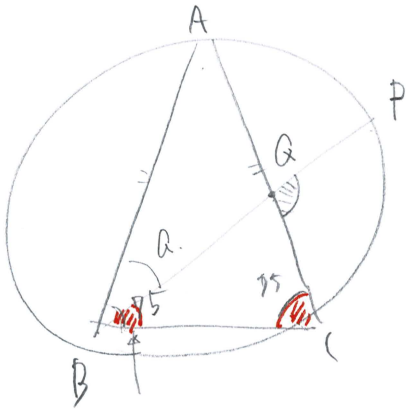
$p = 2, 8$

$p = 8$

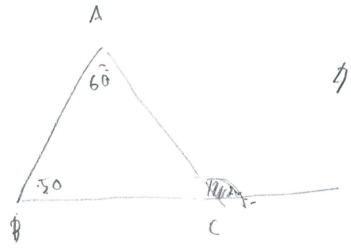
$p - 4 = 8 - 4 = 4$

4

(1)



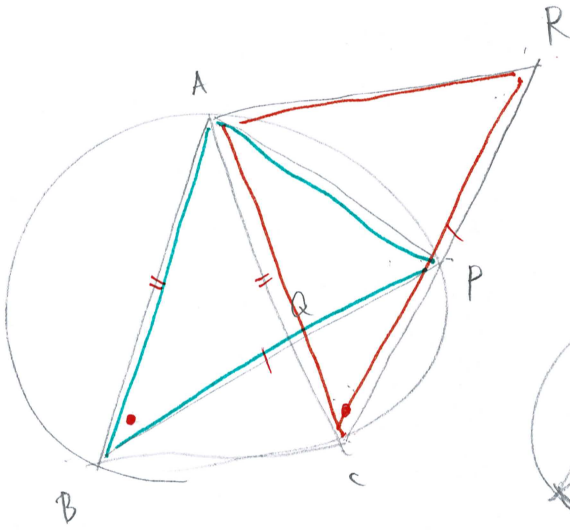
75 - a



外角

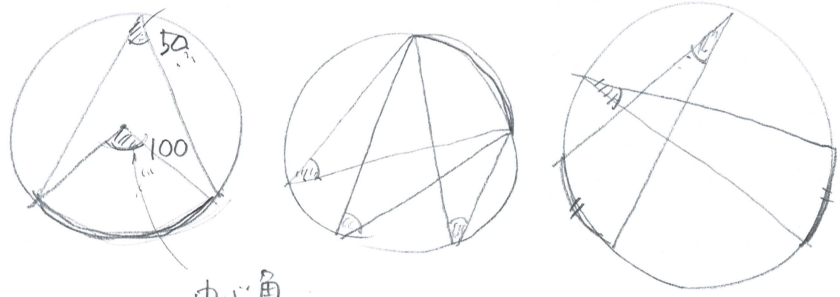
$(75-a)+75 = 150-a$

(2)



① $\triangle ABP \equiv \triangle ACR$

円周角



中心角

$\triangle ABP$ と $\triangle ACR$ において

仮定より

$BP = CR$ … ①

$\overset{\frown}{AC}$ に対する円周角より

$\angle ABP = \angle ACR$ … ②

$\triangle ABC$ は $AB = AC$ の二等辺三角形なので

$AB = AC$ … ③

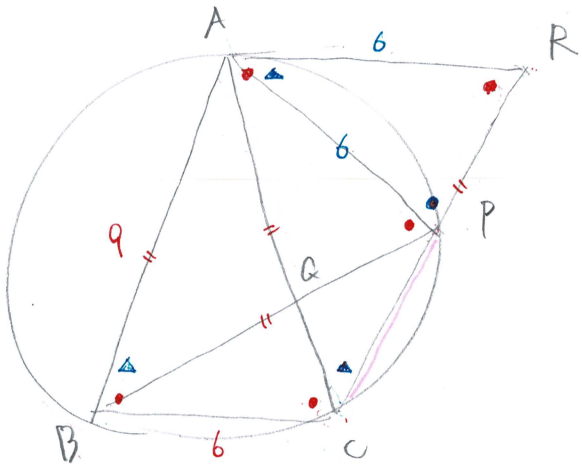
①, ②, ③より

2組の辺とその間の角がそれぞれ等しいので

$\triangle ABP \equiv \triangle ACR$

(2)

(2)



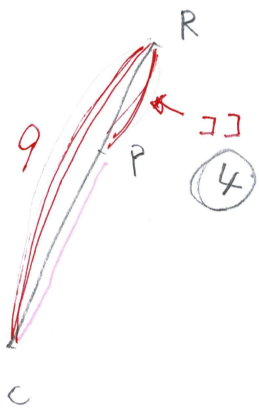
CP = ?

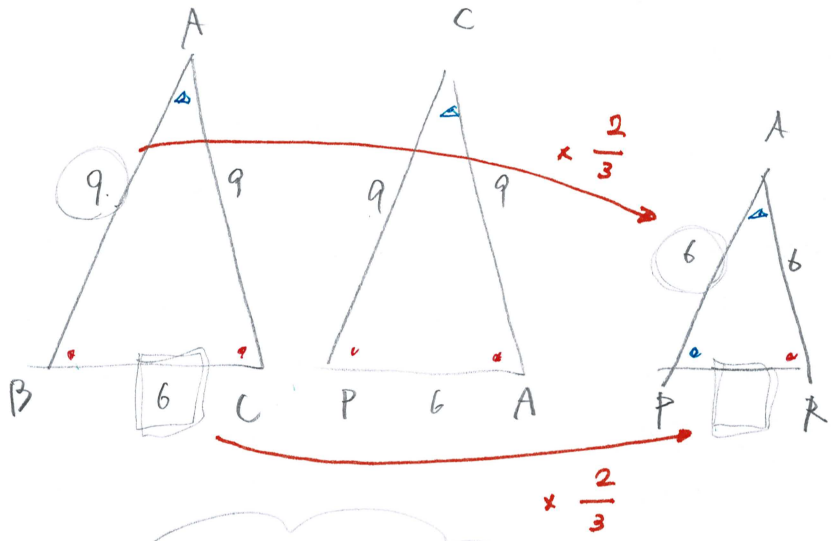
180 - 50 = 130

△BAP = △ + ● + ●　(50, 65, 65)

△CAR = △ + × + ×　(50, 65, 65)

130





9 - 4 = 5

$9 \times \frac{6}{9} = 6$

$\frac{2}{3}$倍

$PR = 6 \times \frac{2}{3} = 4$

$5 \times \frac{3}{5} = 3$

$2 \times \frac{9}{2} = 9$

$7 \times \frac{24}{7} = 24$