R2

1

(1) $9-8\div\frac{1}{2}$

$=9-8\times 2$

$=9-16=-7$

(2) $3(5a-b)-(7a-4b)$

$=15a-3b-7a+4b$

$=8a+b$

(3) $(2-\sqrt{6})(1+\sqrt{6})$

$=2+2\sqrt{6}-\sqrt{6}-6$

$=-4+\sqrt{6}$

(4) $9x+4=5(x+8)$

$9x+4=5x+40$

$4x=36$

$x=9$

(5) $\begin{cases} 7x-3y=6 \\ x+y=8 \end{cases}$

$\begin{cases} 7x-3y=6 \\ 3x+3y=24 \end{cases}$

$10x=30$

$x=3$

$3+y=8$

$y=5$

(6) $3x^2+9x+5=0$

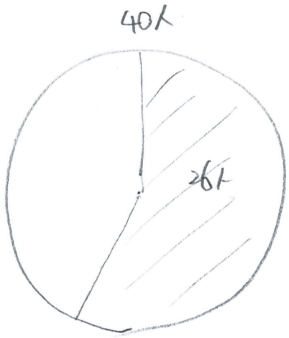
$x=\dfrac{-9\pm\sqrt{81-4\cdot 3\cdot 5}}{6}$

$=\dfrac{-9\pm\sqrt{81-60}}{6}$

$=\dfrac{-9\pm\sqrt{21}}{6}$

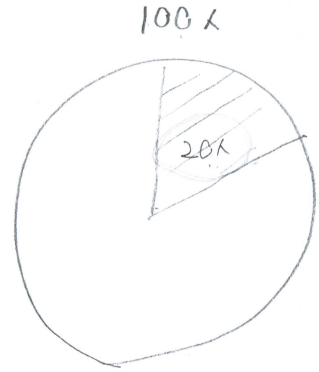
$$\begin{array}{r|l} & 0.65 \\ 40 & 260 \\ & 240 \\ \hline & 200 \\ & 200 \end{array}$$

17) 26% 40%



$26 \div 40 = 0.65$

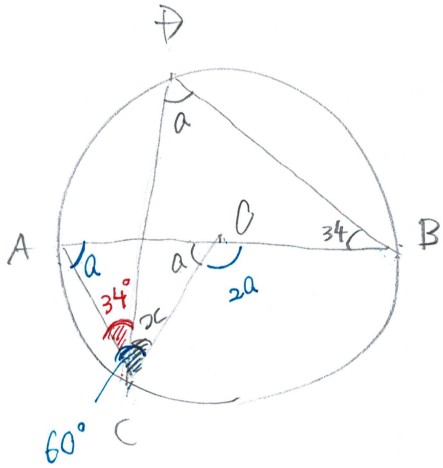
65%



$20\% = 0.20$

$20 \div 100$

18)



$180 = a + 2a$

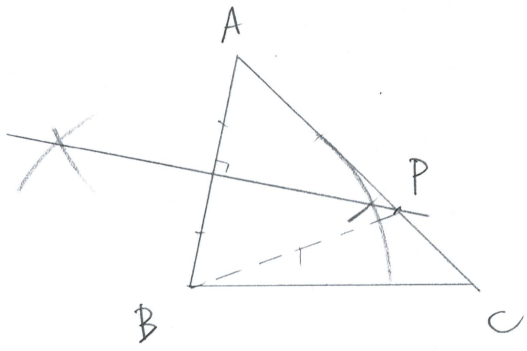
$180 = 3a$

$a = 60$

$x = 60 - 34$

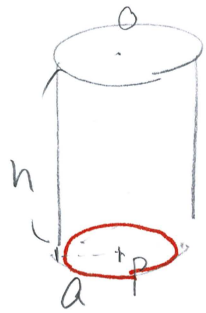
$x = 24$

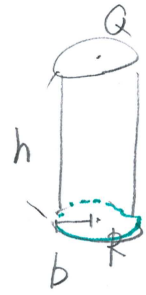
19)



2

(1)





$X = a^2 \pi \times h$

$Y = b^2 \pi \times h$

$X - Y$

$= a^2 \pi h - b^2 \pi h$

$= \pi (a^2 - b^2) h$ (ア)

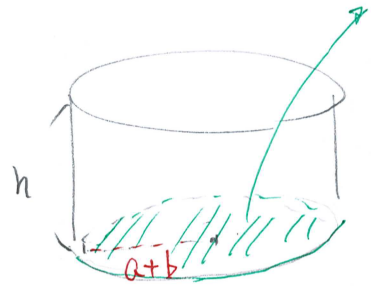
(2)

$W = X + Y$

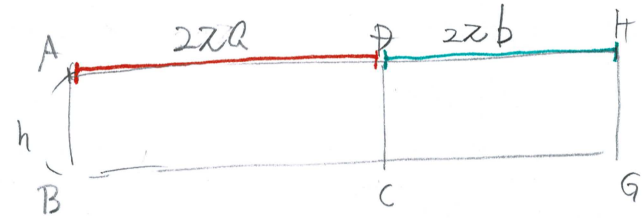
$= \pi a^2 h + \pi b^2 h$

$= \pi (a^2 + b^2) h$

$(a+b)^2 \pi$



$2\pi(a+b)$



$Z = (a+b)^2 \pi \times h$

$= \pi (a+b)^2 h$

円周 = 直径 × π

$= 2(a+b) \times \pi$

⇩

半径 $a+b$.

よって

$Z - W$

$= \pi (a+b)^2 h - \pi (a^2 + b^2) h$

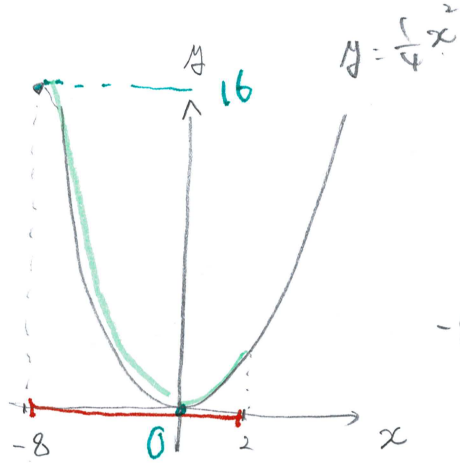
$= \pi \{ (a+b)^2 - (a^2 + b^2) \} h$

$= \pi (a^2 + 2ab + b^2 - a^2 - b^2) h$

$= 2\pi ab h$ //

3

(1)



$P(a,b)$

$-8 \leqq a \leqq 2$

$0 \leqq b \leqq 16$

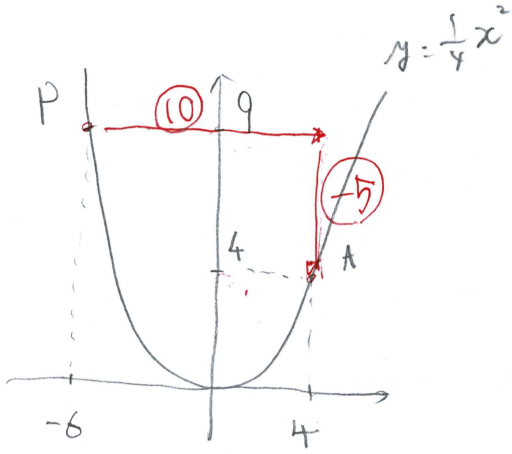
①ウ ②キ.

$y=\frac{1}{4}(-8)^2$

$=\frac{1}{4}\cdot 64$

$=16$

(2)



$A(4,4)$ $P(-6,9)$

$y=ax+b$

傾き = $\frac{y\text{の}}{x\text{の}}$

$\frac{-5}{10}=-\frac{1}{2}$

$y=-\frac{1}{2}x+b$

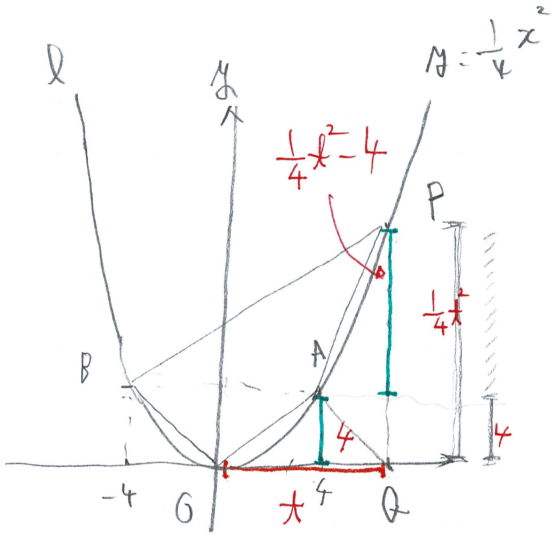
$4=-\frac{1}{2}\cdot 4^2+b$

$4=-2+b$

$b=6$

$y=-\frac{1}{2}x+6$

③エ ④イ



□OAPB = △AOQ × 4.

点Pのx座標を求めよ.

↓

★点Pのxを t とおく.

$P(t, \frac{1}{4}t^2)$

$Q(t, 0)$

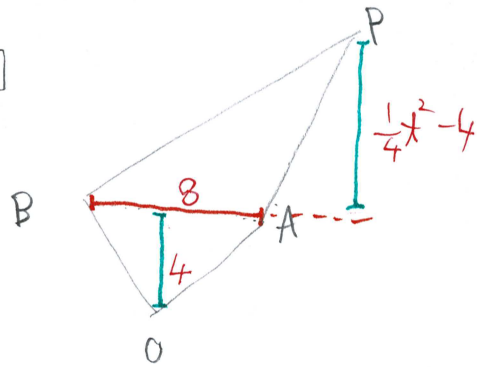
$A(4, 4)$

$B(-4, 4)$

$\triangle AOQ = t \times 4 \times \frac{1}{2} = 2t$

□OAPB

①

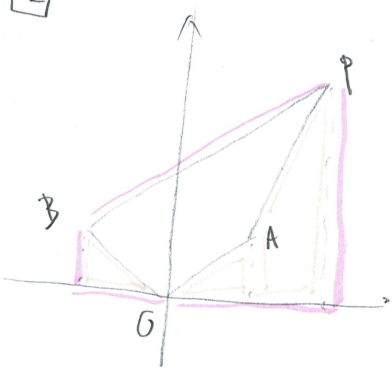


a. $8 \times 4 \times \frac{1}{2} + 8 \times (\frac{1}{4}t^2-4) \times \frac{1}{2}$

b. $8 \times (4 + \frac{1}{4}t^2-4) \times \frac{1}{2}$

$= 4 \times \frac{1}{4}t^2 = t^2$

②



$t^2 = 2t \times 4$

$t^2 = 8t$

$t^2 - 8t = 0$

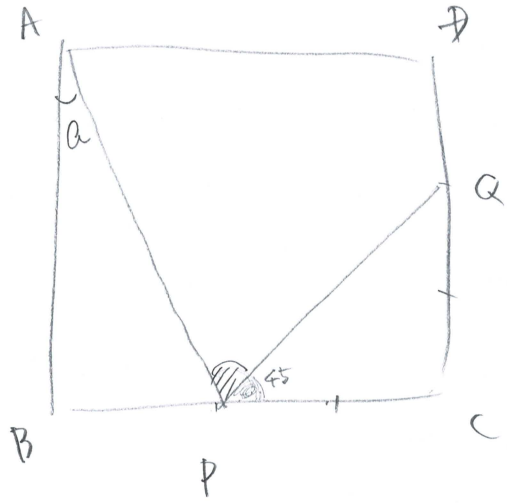
$t(t-8) = 0$

$t = 0, 8$

$t > 0$

R2.

4

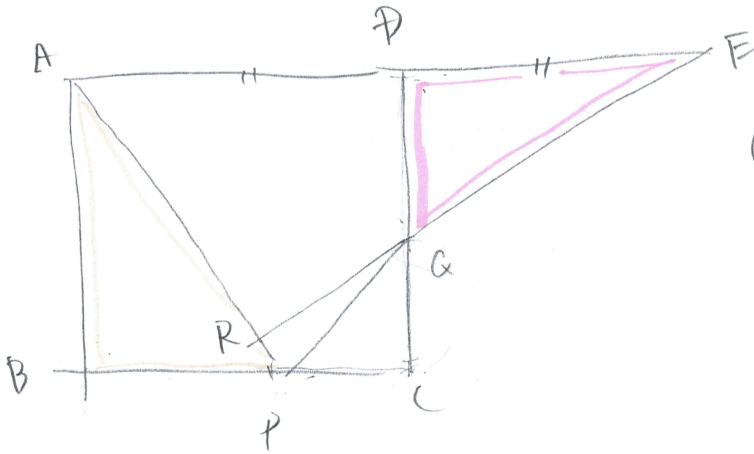


(1)

$a+90-45$

$= a+45$ …(答)

(2)



△ABPと△EDQにおいて

四角形ABCDは正方形で、

かつ仮定より AD=DE なので

AB=ED … ①

∠ABP=90°

またDEはADを延ばした線なので

∠EDQ=90°

① △ABP≡△EDQ

故に ∠ABP=∠EDQ … ②

また 仮定より

BC=CD

CP=CQ

よって

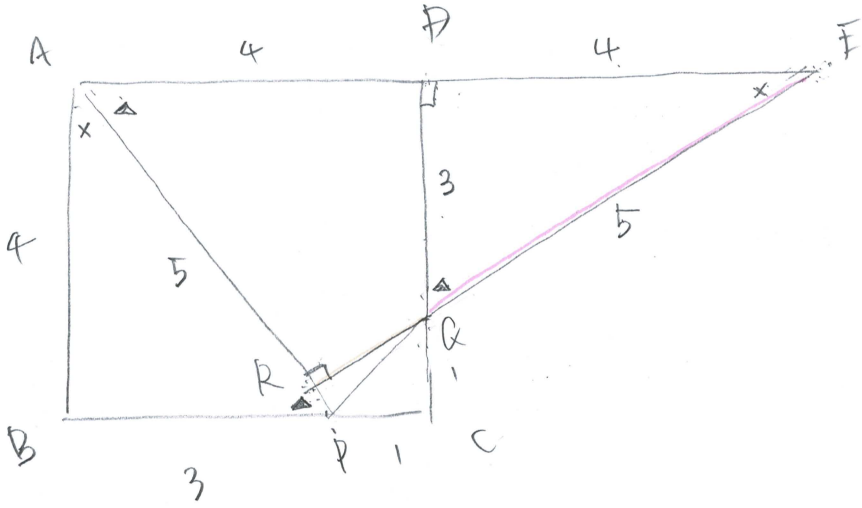
BP=DQ … ③

①②③ より

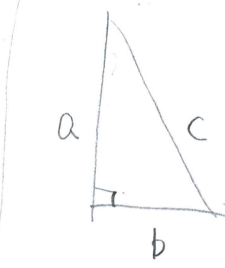
2組の辺とその間の角が等しいので

△ABP≡△EDQ

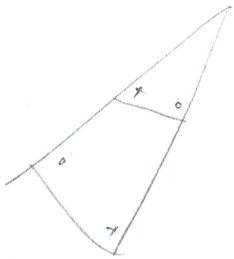
②

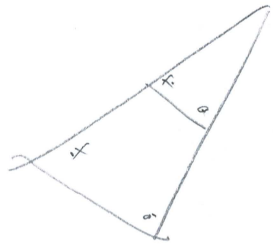


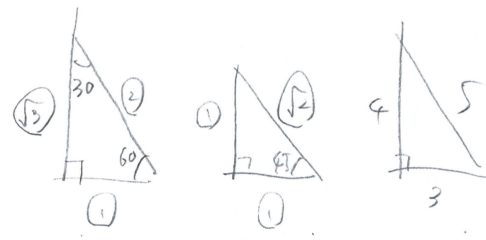
EQ : QR = ? : ?

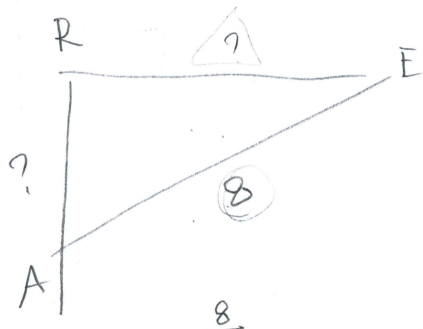


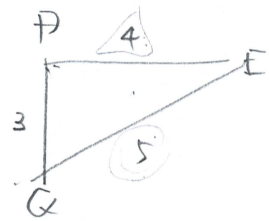
$c^2 = a^2 + b^2$











×8/5 ×8/5

5 : 8 = 4 : ?

$4 \times \frac{8}{5} = \frac{32}{5}$ … RE

RE − QE

$= \frac{32}{5} - 5$

$= \frac{32}{5} - \frac{25}{5} = \frac{7}{5}$ … RQ

EQ : QR = $5 : \frac{7}{5}$

$= 25 : 7$

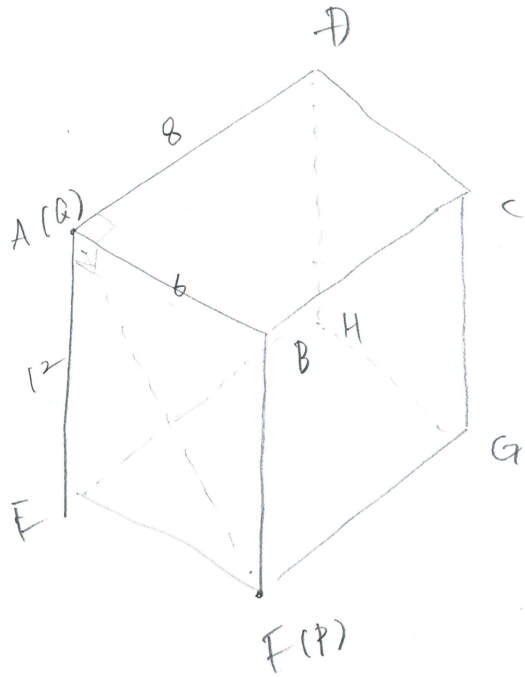
×2 ×2

1 : 2 = 4 : ?

$1 \times \square = 2$

$5 \times \frac{8}{5} = 8$

5

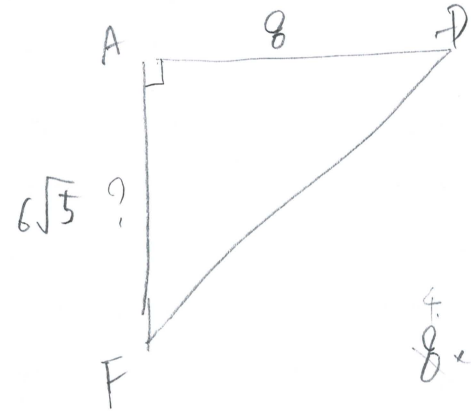


(1)

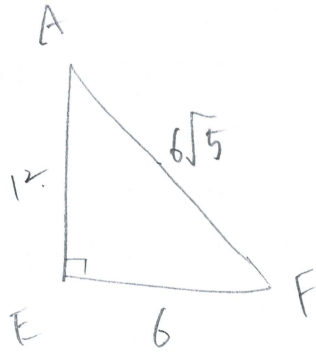
△DQP = ?

↓

△DAF = ?



$8 \times 6\sqrt{5} \times \frac{1}{2} = 24\sqrt{5}$



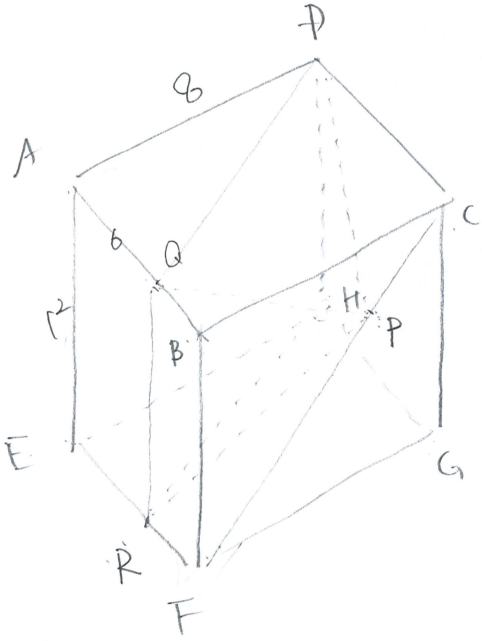
$AF = \sqrt{12^2 + 6^2}$

$= \sqrt{144 + 36}$

$= \sqrt{180}$ 36×5

$= 6\sqrt{5}$

(2)



P-DQRHの体積

直方体 ABCD-EFGH 576

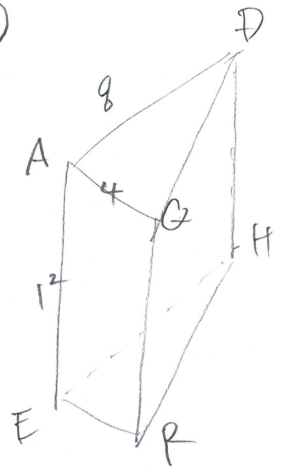
① 三角柱 ADQ-EHR 192

② 四角錐 P-RFGH 80

③ 〃 P-QBCD 48

④ 〃 P-DCGH 72

⑤ 〃 P-QBFR 40

① 

$8 \times 4 \times \frac{1}{2} \times 12$

$= 16 \times 12$

$= 192$

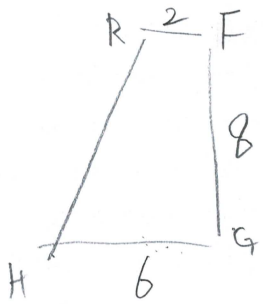
$8 \times 6 \times 12$

$= 48 \times 12$

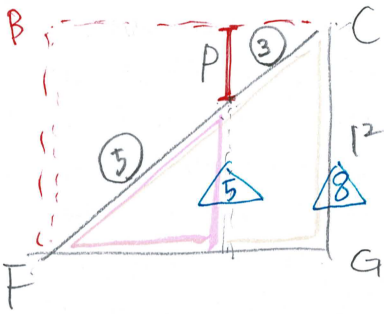
16 × 12 = 192

48 × 12 = 576

② 底面 RFGH



$(2+6) \times 8 \times \frac{1}{2} = 32$



$5 : 8 = 9 : 12$

$12 \times \frac{5}{8} = \frac{15}{2}$

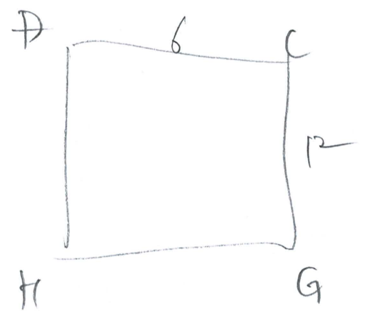
$32 \times \frac{15}{2} \times \frac{1}{3} = 80$

③ 底面 QBCD → 32

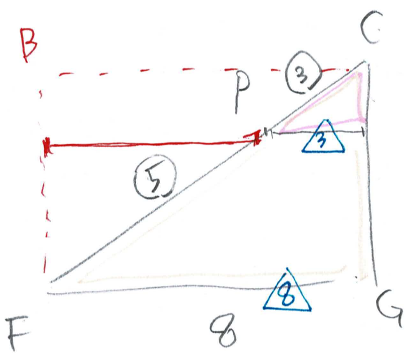
$12 - \frac{15}{2} = \frac{24}{2} - \frac{15}{2} = \frac{9}{2}$

$32 \times \frac{9}{2} \times \frac{1}{3} = 48$

④ 底面 DCGH



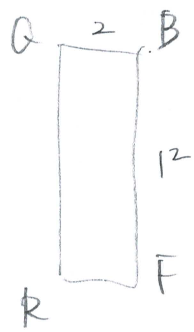
$6 \times 12 = 72$



高さ 3

$72 \times 3 \times \frac{1}{3} = 72$

⑤ 底面



$2 \times 12 = 24$

$\overset{8}{\cancel{24}} \times 5 \times \frac{1}{\cancel{3}} = 40$

高さ 5

$120 + 120 + 192 = 432$

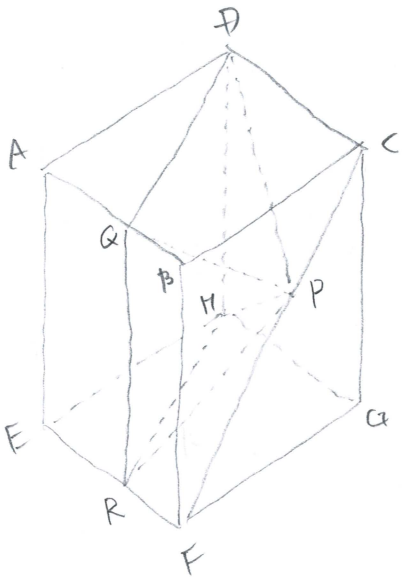
240

$192 + 240 = 432$

$576 - 432 = 144$

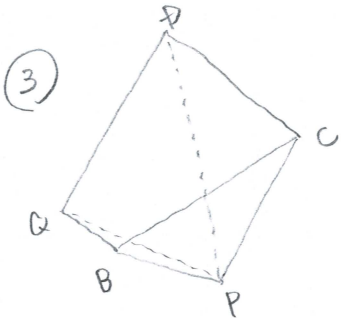
$576 - 432 = 144$

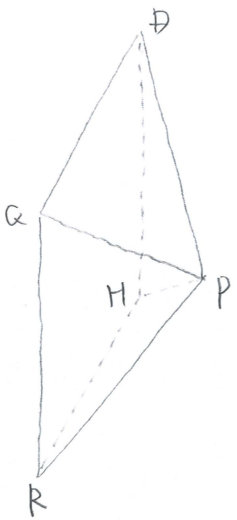
R2 ⑤ 資料



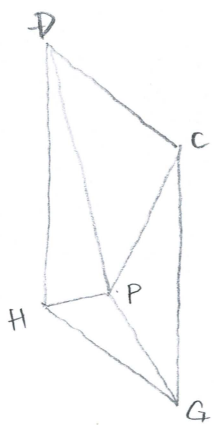
動画講義や自分の図と見比べてみよう♪

③



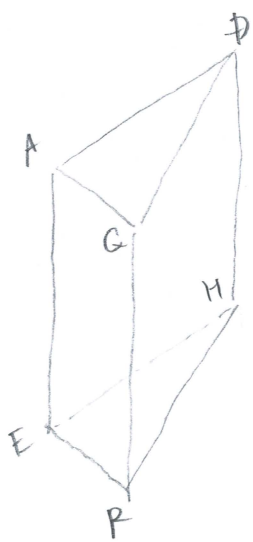


④

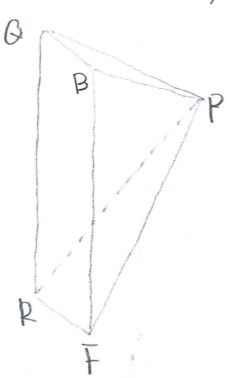


ちょっと分かりにくいけど、これはこれで正しい図です

①



⑤



②