

B
2 (1) $y = 40 + 90x(x-1)$
 $= 90x^2 - 50$
 P. $x=4$
 $y = 360 - 50 = 310$
 1 $x=7$
 $y = 630 - 50 = 580$

(2) $y = 90x^2 - 50$
 (3) $y = 1660$
 $1660 = 90x^2 - 50$
 $90x^2 = 1710$
 $x = 19$

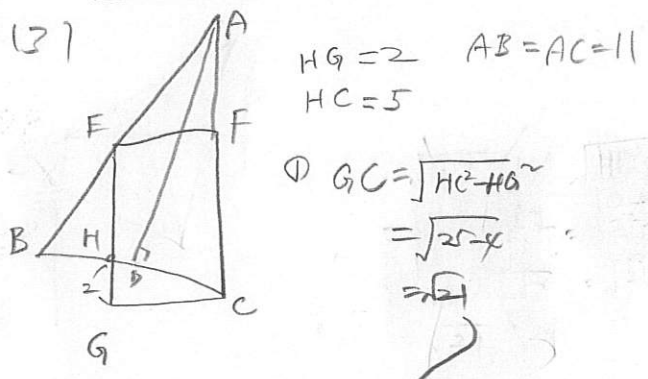
(2) $OP = y = 90x^2 - 50$
 $x = 23$ $AB \perp S$
 $OP = 2070 - 50 = 2020$

$QR = y = 40 + ax(x-1)$
 $x = 16$
 $y = 40 + a(16-1) = 15a + 40$

$QR = OP + PQ + QR$
 $3490 = 2020 + 200 + QR$
 $3490 = 2220 + QR$
 $QR = 1270$
 $1270 = 15a + 40$
 $15a = 1230$
 $a = 82$

3
 (1) $\angle AEF = \alpha$ $\angle B$
 $\angle EAF = 90 - \alpha$
 (2) $\triangle ABD \sim \triangle CHG$
 $\angle ADB = \angle CGH = 90^\circ$
 $\angle ABD = \angle ACD$

$= \angle GCF - \angle GCH$
 $= 90 - \angle GCH$
 $= \angle CHG$
 (3) $\triangle ABD \sim \triangle CHG$



$BD:AB = HG:HC$
 $BD:11 = 2:5$
 $5BD = 22$
 $BD = \frac{22}{5}$
 $AD = CG = AB = CH$
 $AD:BC = 11:5$
 $AD = \frac{11}{5}\sqrt{21}$

$BC = 2BD = \frac{44}{5}$
 $BS'AC = BS'EC$
 $\triangle ABC = BC \times AD \div 2$
 $= \frac{44}{5} \times \frac{11\sqrt{21}}{5} \div 2$
 $= \frac{242}{25} \sqrt{21} \text{ cm}^2$
 $AC \times BS \div 2 = \frac{242}{25} \sqrt{21}$
 $11 \times BS \div 2 = \frac{242}{25} \sqrt{21}$
 $BS = \frac{242\sqrt{21}}{25} \times 2 \times \frac{1}{11}$
 $= \frac{44\sqrt{21}}{25}$

$\triangle ABS \sim \triangle AEF$
 $AS = \sqrt{AB^2 - BS^2}$
 $= \sqrt{11^2 - (\frac{44\sqrt{21}}{25})^2}$
 $\triangle ABS \sim \triangle AEF$
 $BS:AS = EF:AF$
 $\frac{44\sqrt{21}}{25} : \sqrt{11^2 - (\frac{44\sqrt{21}}{25})^2} = \sqrt{21} : AF$
 $\frac{44\sqrt{21}}{25} AF = \sqrt{21} \times \sqrt{11^2 - (\frac{44\sqrt{21}}{25})^2}$
 $\frac{44}{25} AF = \sqrt{11^2 - (\frac{44\sqrt{21}}{25})^2}$
 $(\frac{44}{25})^2 AF^2 = 11^2 - (\frac{44\sqrt{21}}{25})^2$

$(\frac{44}{25})^2 AF^2 = 121 - (\frac{44}{25})^2 \cdot 21$
 $AF^2 = 121 \times (\frac{25}{44})^2 - 21$
 $AF^2 = 121 \times \frac{25 \times 25}{44 \times 44} - 21$
 $= \frac{25^2}{4^2} - \frac{4^2 \times 21}{4^2}$
 $= \frac{1}{4^2} (625 - 336)$
 $= \frac{1}{4^2} \times 289$
 $AF = \frac{1}{4} \times 17$

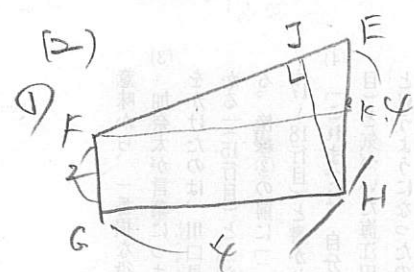
$FC = AC - AF$
 $= 11 - \frac{17}{4}$
 $= \frac{44}{4} - \frac{17}{4}$
 $= \frac{27}{4}$

16
21
16
32
336
625
336
289
17
17
17
17
289

4

(1) ① 2
 ② $EG = 4\sqrt{2}$
 ③ $EC = \sqrt{4^2 + 4^2 + 4^2}$
 $= \sqrt{48}$
 $= 4\sqrt{3}$

$DI = 2$
 $FG = 2 \cdot 2'$
 $IF = DG = 4\sqrt{2}$
 $\triangle EICF$
 $= EC \times IF \div 2$
 $= 4\sqrt{3} \times 4\sqrt{2} \div 2$
 $= 8\sqrt{6} \text{ cm}^2$



$PH = \sqrt{2^2 + 4^2}$
 $= \sqrt{20}$
 $= 2\sqrt{5}$
 $FK = 4, EK = 2$
 $FE = 2\sqrt{5}$
 $\triangle EKF \sim \triangle EJI$
 $FE:EK = HE:EJ$
 $2\sqrt{5}:2 = 4:EJ$
 $EJ = \frac{8}{2\sqrt{5}} = \frac{4\sqrt{5}}{5} \text{ cm}$

④ $FJ = FE - JE$
 $= 2\sqrt{5} - \frac{4}{5}\sqrt{5}$
 $= \frac{6}{5}\sqrt{5}$
 $FJ:JE = 6:4$
 $= 3:2$
 $\triangle FGJ = 2 \times 4 \times \frac{3}{3+2} \div 2$
 $= 8 \times \frac{3}{5} \times \frac{1}{2}$
 $= \frac{12}{5}$
 $V = \triangle FGJ \times BF \times \frac{1}{3}$
 $= \frac{12}{5} \times 4 \times \frac{1}{3}$
 $= \frac{16}{5} \text{ cm}^3$

④ 解答
 ① 解答
 ② 解答
 ③ 解答
 ④ 解答

④ 解答
 ① 解答
 ② 解答
 ③ 解答
 ④ 解答

④ 解答
 ① 解答
 ② 解答
 ③ 解答
 ④ 解答