

◆問題◆

→p.117~p.118

- 問題1 (1) $x=12, y=8$ (2) $x=6, y=15$
 (3) $x=3, y=9$ (4) $x=16, y=6$
 (5) $x=12, y=10$ (6) $x=\frac{15}{2}, y=\frac{21}{2}$

問題2 DE

問題3 (1) $2:3$ (2) $3:5$ (3) 6 cm問題4 (1) $x=21$ (2) $x=4$ (3) $x=6$

解説

- 問題1 (1) $x:18=10:15, x:18=2:3$
 $3x=36, x=12$
 $y:12=10:15, y:12=2:3$
 $3y=24, y=8$
 (2) $18:x=12:4, 18:x=3:1, 3x=18, x=6$
 $y:20=12:(12+4), y:20=3:4$
 $4y=60, y=15$
 (3) $x:6=4:(12-4), x:6=1:2$
 $2x=6, x=3$
 $3:y=4:12, 3:y=1:3, y=9$
 (4) $x:24=14:21, x:24=2:3, 3x=48, x=16$
 $12:(12+y)=14:21, 12:(12+y)=2:3$
 $2(12+y)=36, 12+y=18, y=6$
 [別解] $12:y=16:(24-16), 12:y=2:1$
 (5) $\triangle ABC \sim \triangle ADE$ である。
 $x:8=9:6, x:8=3:2, 2x=24, x=12$
 $15:y=9:6, 15:y=3:2, 3y=30, y=10$
 (6) $x:10=9:12, x:10=3:4, 4x=30, x=\frac{15}{2}$
 $y:14=9:12, y:14=3:4, 4y=42, y=\frac{21}{2}$

問題2 $BD:DA=7:3$ $BE:EC=10.5:4.5=7:3$ $CF:FA=4:10=2:5$ よって, $BD:DA=BE:EC$ だから, $DE \parallel AC$ 問題3 (1) $AB \parallel CD$ より, $\triangle ABE \sim \triangle DCE$ だから, $AE:ED=AB:CD=10:15=2:3$ (2) $\triangle DAB$ で, $EF \parallel AB$ だから, $EF:AB=DE:DA=3:(2+3)=3:5$ (3) $EF:10=3:5, 5EF=30, EF=6$ 問題4 (1) $10:15=14:x, 10x=210, x=21$ (2) $8:x=12:6, 12x=48, x=4$ (3) $x:4=6.6:(11-6.6), x:4=3:2, x=6$ [1] (1) $x=3.6, y=2.4$ (2) $x=5, y=12$ (3) $x=\frac{16}{3}, y=\frac{15}{4}$ [2] (1) $x=9$ (2) $x=4$ (3) $x=3$ [3] (1) $2:1$ (2) 4 cm

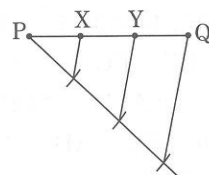
[4] (1) 6 cm (2) 3 cm

[5] (1) $\frac{12}{5}$ cm (2) $\frac{24}{5}$ cm

[6] (1) 12 cm (2) 6 cm (3) 18 cm

[7] (1) $5:3$ (2) 10 cm[8] (1) $\triangle ABD$ で, $AE:EB=AF:FD$ だから。(2) $2:3$ (3) $3:5$ [9] (1) $x=4.4$ (2) $x=\frac{15}{4}$ (3) $x=15$

[10] 右図



解説

[1] (1) $x:2.4=3:(5-3), 2x=7.2$
 $y:4=3:5, 5y=12$

[別解] $x:(x+2.4)=3:5, 5x=3(x+2.4)$
 $5x=3x+7.2, 2x=7.2$

(2) $10:x=6:3=2:1, 2x=10$ $8:y=6:(6+3)=2:3, 2y=24$ (3) $x:4=4:3, 3x=16$ $5:y=4:3, 4y=15$ [2] (1) $x:(x+3)=6:8=3:4, 4x=3(x+3)$ (2) $6:(6+x)=9:15=3:5, 3(6+x)=30$ (3) $x:(9-x)=4:8=1:2, 9-x=2x$ [3] (1) $\triangle ABC$ で, $DE \parallel BC$ より, $AD:DB=AE:EC=6:3=2:1$ (2) $\triangle ABE$ で, $BE \parallel DF$ より, $AF:FE=AD:DB=2:1$ $AF:AE=2:(2+1)=2:3$ $AF:6=2:3, 3AF=12$ [4] (1) $\triangle ABC$ で, $DF \parallel AC$ より, $BF:FC=BD:DA=2:3$ よって, $BF:BC=2:(2+3)=2:5$ $BF:15=2:5, 5BF=30$ (2) $DE \parallel BC$ より, $AE:EC=AD:DB=3:2$ $EG \parallel AB$ より, $CG:GB=CE:EA=2:3$ よって, $BG:BC=3:(2+3)=3:5$ $BG:15=3:5, 5BG=45, BG=9$ $FG=BG-BF=9-6=3$ [5] (1) $\triangle AOD \sim \triangle COB$ より, $AO:CO=AD:BC=4:6=2:3$