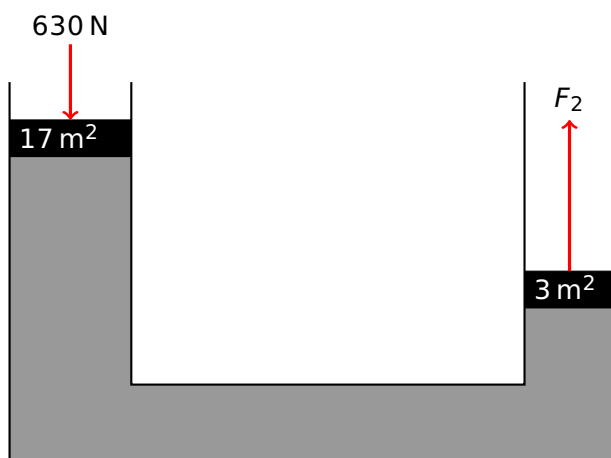
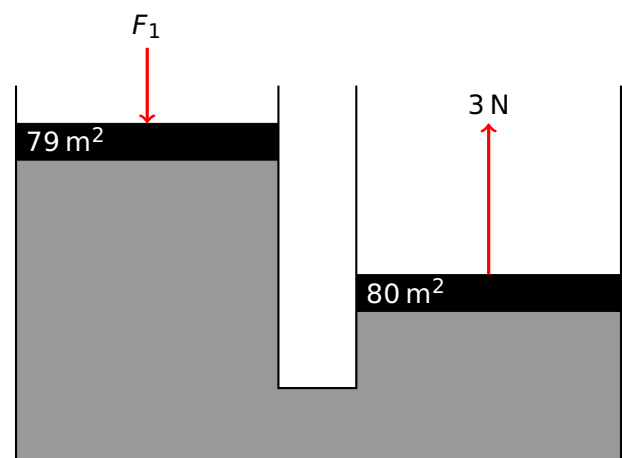


Calculate the unknown force in each of the hydraulic systems below;

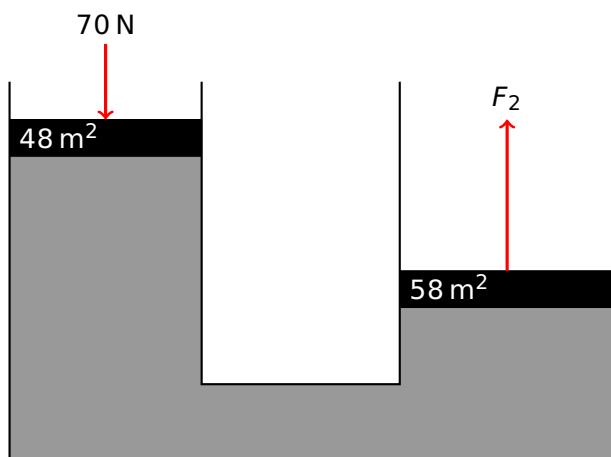
1)



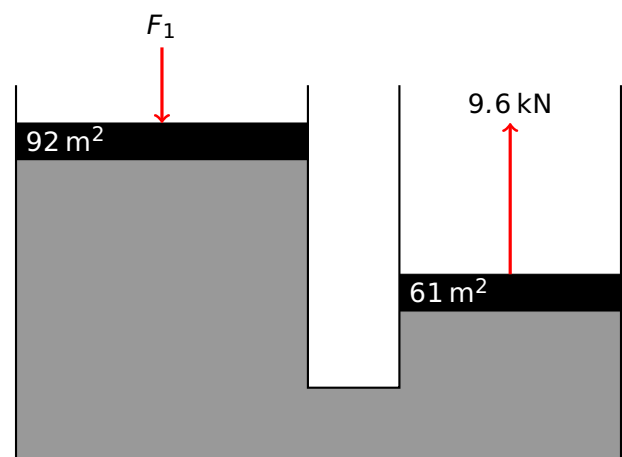
2)



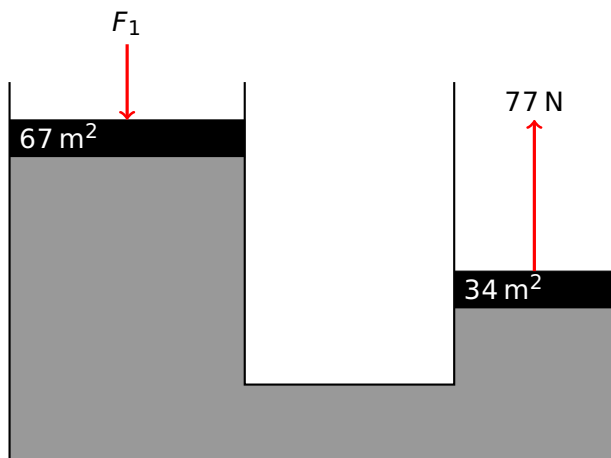
3)



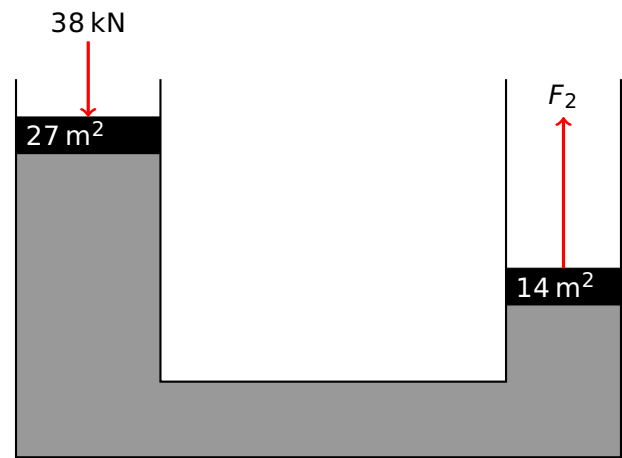
4)



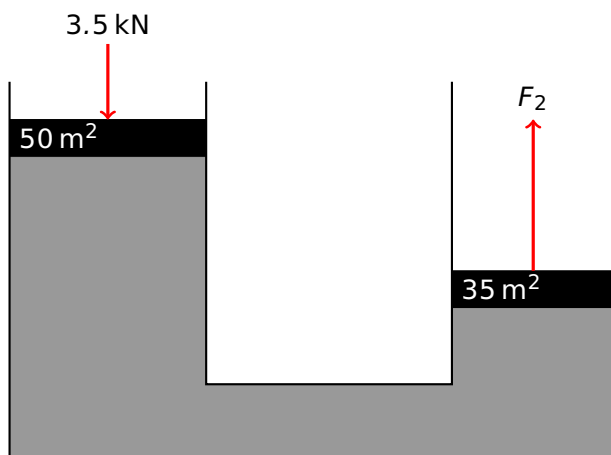
5)



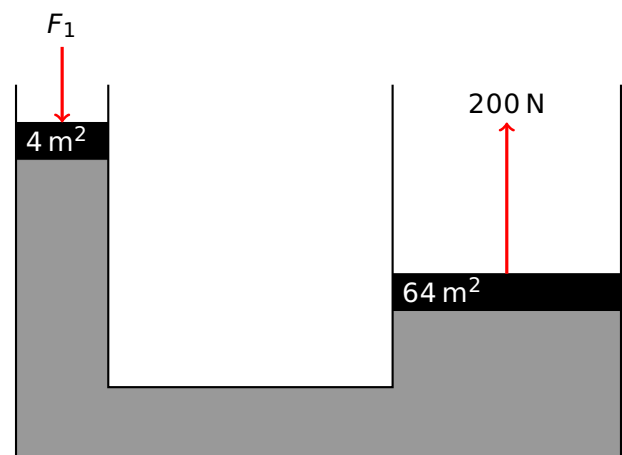
6)



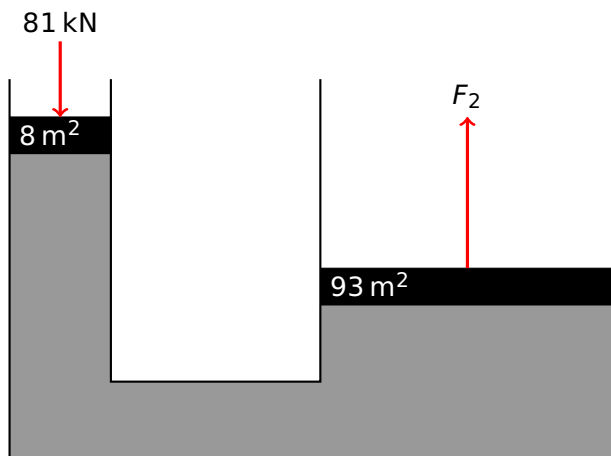
7)



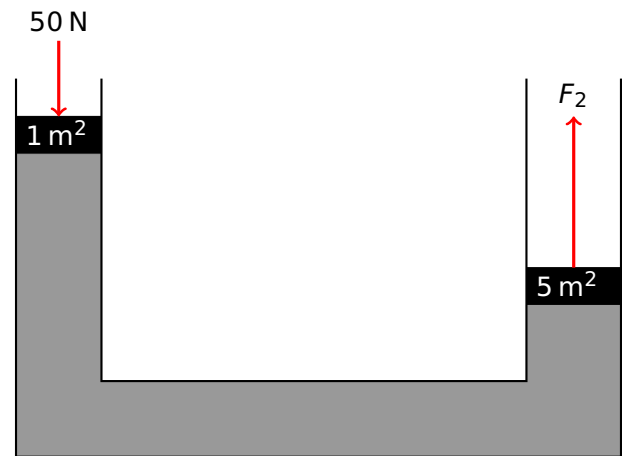
8)



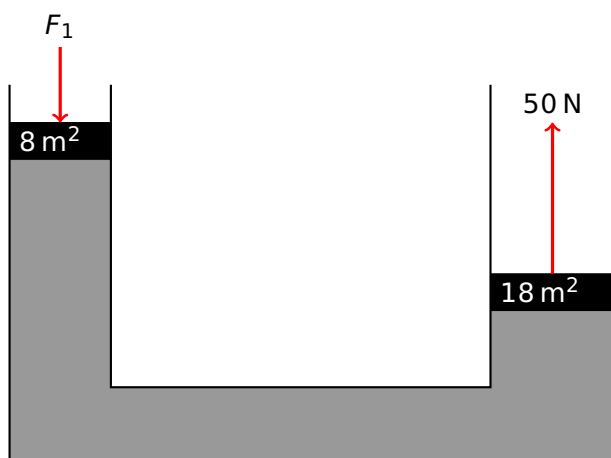
9)



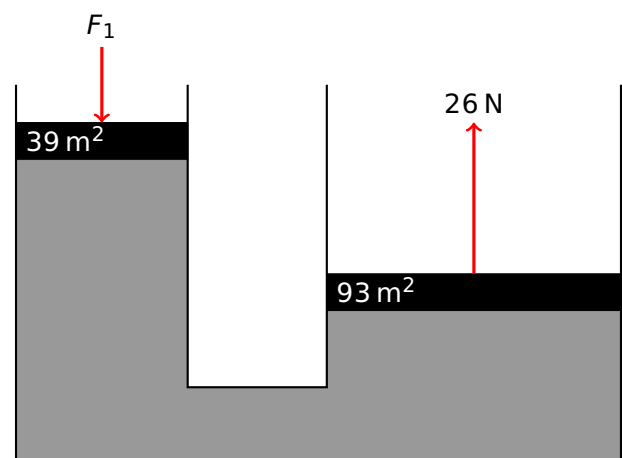
10)



11)



12)



Answers

- 1) $F_2 = 110 \text{ N}$
- 2) $F_1 = 3 \text{ N}$
- 3) $F_2 = 85 \text{ N}$
- 4) $F_1 = 9.6 \text{ kN}$
- 5) $F_1 = 77 \text{ N}$
- 6) $F_2 = 20 \text{ kN}$
- 7) $F_2 = 2.4 \text{ kN}$
- 8) $F_1 = 200 \text{ N}$
- 9) $F_2 = 940 \text{ kN}$
- 10) $F_2 = 250 \text{ N}$
- 11) $F_1 = 50 \text{ N}$
- 12) $F_1 = 26 \text{ N}$