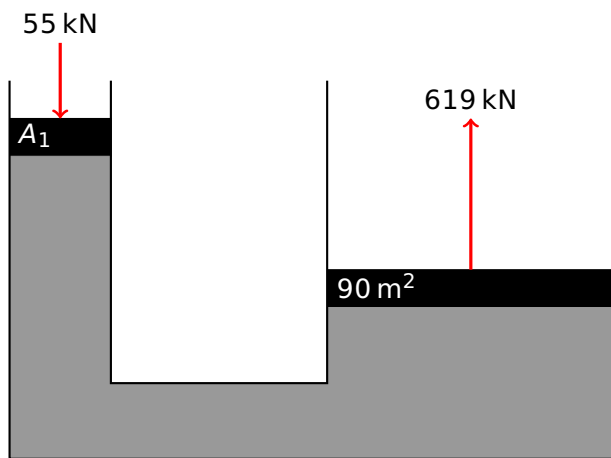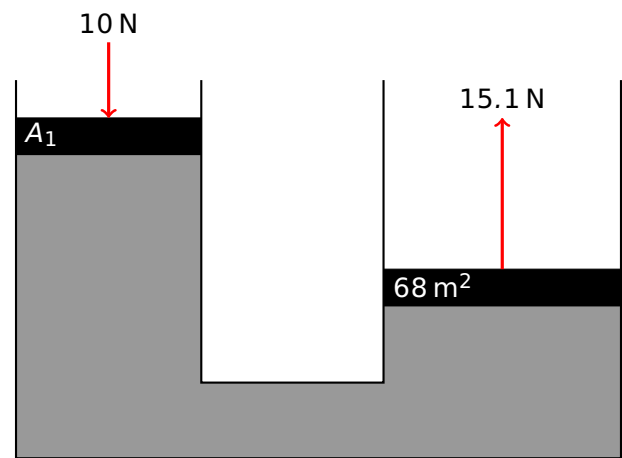Calculate the unknown area in each of the hydraulic systems below;
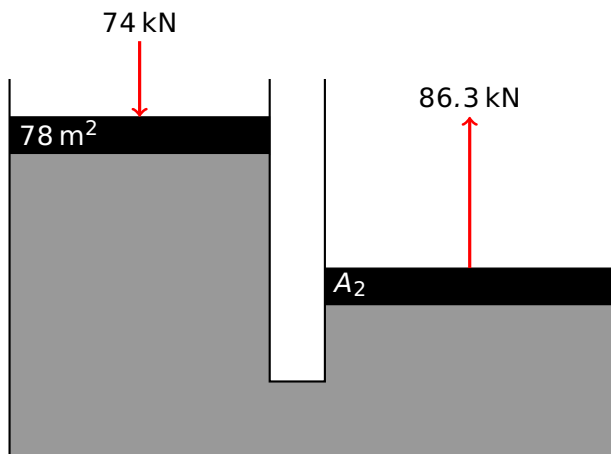
1)
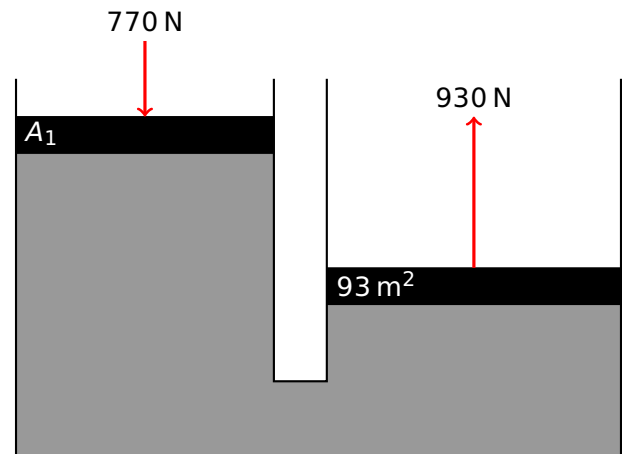
55 kN
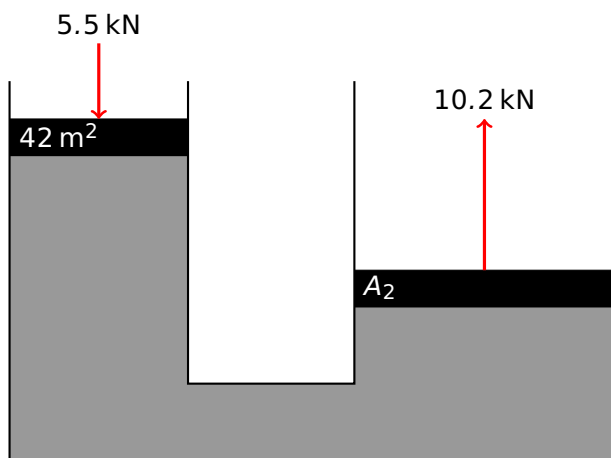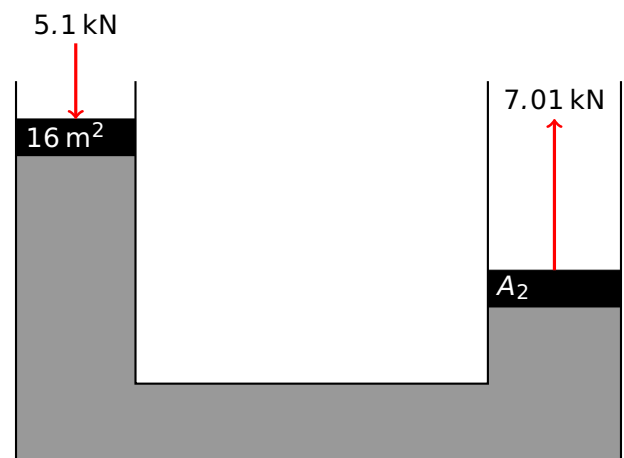
A_1

619 kN

90 m^2

2)

10 N

A_1

15.1 N

68 m^2

3)

74 kN

78 m^2

86.3 kN

A_2

4)

770 N

A_1

930 N

93 m^2

5)

5.5 kN

42 m²

10.2 kN

A_2

6)

5.1 kN

16 m²

7.01 kN

A_2

7)

3.3 kN

6 m²

16.5 kN

A_2

8)

26 kN

60 m²

23.8 kN

A_2

9)

830 N

41 m^2

40.5 N

A_2

10)

500 N

68 m^2

551 N

A_2

11)

280 N

A_1

991 N

46 m^2

12)

53 N

A_1

223 N
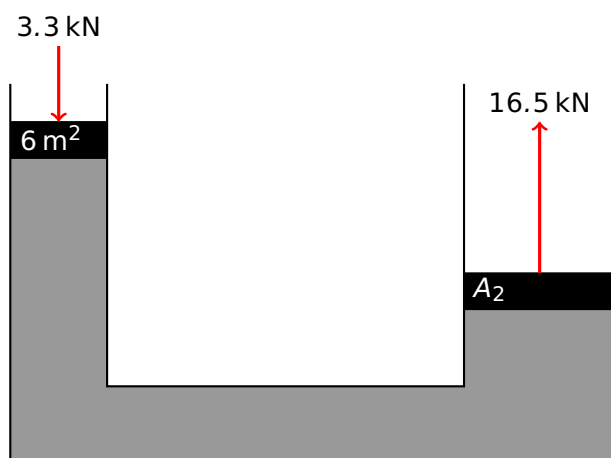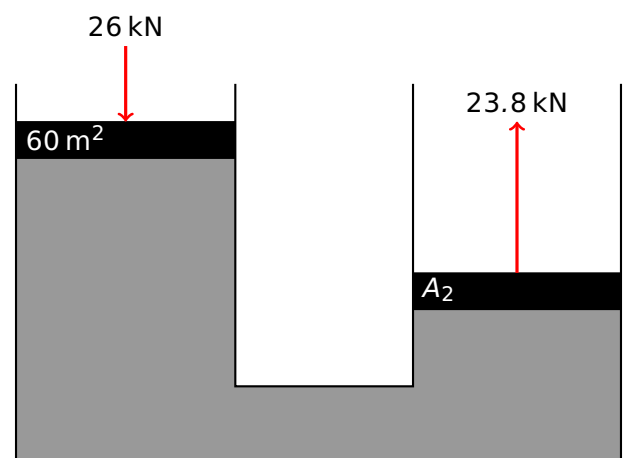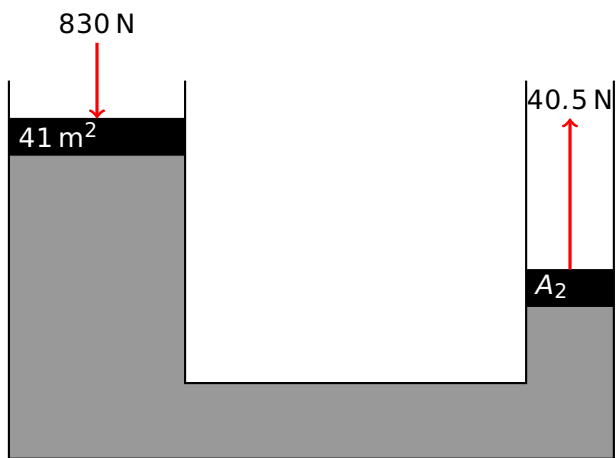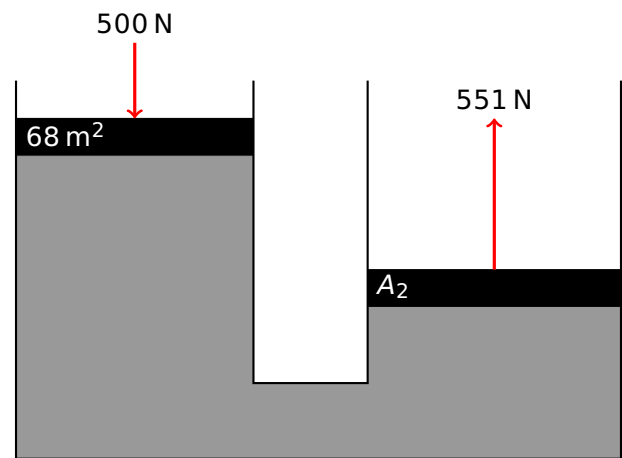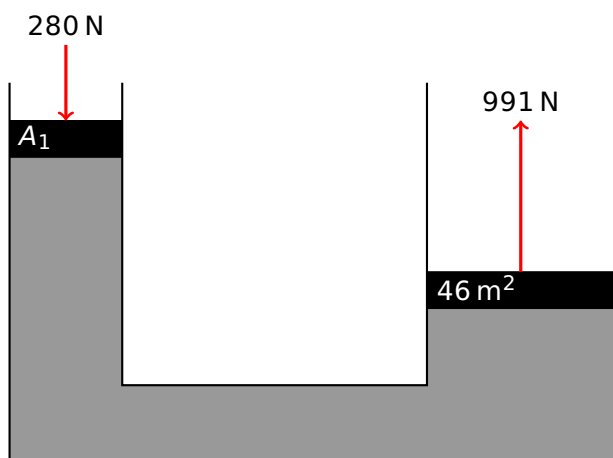
63 m^2

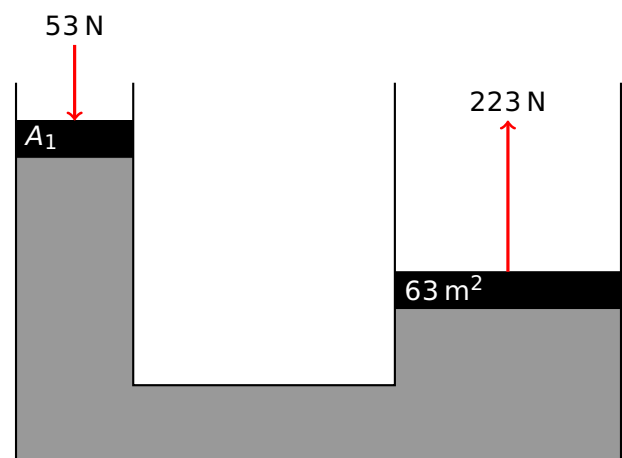## Answers

1) $A_1 = 8\,\text{m}^2$
2) $A_1 = 45\,\text{m}^2$
3) $A_2 = 91\,\text{m}^2$
4) $A_1 = 77\,\text{m}^2$
5) $A_2 = 78\,\text{m}^2$
6) $A_2 = 22\,\text{m}^2$
7) $A_2 = 30\,\text{m}^2$
8) $A_2 = 55\,\text{m}^2$
9) $A_2 = 2\,\text{m}^2$
10) $A_2 = 75\,\text{m}^2$
11) $A_1 = 13\,\text{m}^2$
12) $A_1 = 15\,\text{m}^2$