a) A water tank is empty.
Anil needs to fill the tank with 2400 litres of water.

Company **A** supplies water at a rate of 8 litres in 1 minute 40 seconds.
Company **B** supplies water at a rate of 2.2 gallons per minute.

1 gallon = 4.54 litres.

Company **A** would take more time to fill the tank than Company **B** would take to fill the tank.
How much more time?
Give your answer in minutes, correct to the nearest minute.

What is the rate that Company A fill up the tank?	1 minute 40 seconds = 100 seconds 8 litres ÷ 100 seconds = 0.08 litres per second
How long would it take Company A to fill up the tank?	2400 litres ÷ 0.08 litres per second = 30,000 seconds 30,000 seconds ÷ 60 seconds = 500 minutes
What is the rate that Company B fill up the tank?	2.2 gallons = 2.2 × 4.54 = 9.988 litres
How long would it take Company B to fill up the tank?	2400 ÷ 9.988 = 240.28834602 minutes
How much longer do Company A take compared to Company B?	500 – 240.28834602 = 259.71165398 260 minutes to the nearest minute

b) A water tank is empty.
Anil needs to fill the tank with 3000 litres of water.

Company **A** supplies water at a rate of 12 litres in 2 minutes 30 seconds.
Company **B** supplies water at a rate of 1.5 gallons per minute.

1 gallon = 4.54 litres.

Company **A** would take more time to fill the tank than Company **B** would take to fill the tank.
How much more time?
Give your answer in minutes, correct to the nearest minute.

What is the rate that Company A fill up the tank?	2 minutes 30 seconds = 250 seconds 12 litres ÷ 250 seconds = 0.048 litres per second
How long would it take Company A to fill up the tank?	3000 litres ÷ 0.048 litres per second = 62,500 seconds 62,500 seconds ÷ 60 seconds = $1041.\dot{6}$ minutes
What is the rate that Company B fill up the tank?	1.5 gallons = 1.5 × 4.54 = 6.81 litres
How long would it take Company B to fill up the tank?	3000 ÷ 6.81 = 440.52863436 minutes
How much longer do Company A take compared to Company B?	

c) A water tank is empty.
Anil needs to fill the tank with 1200 litres of water.

Company **A** supplies water at a rate of 5 litres in 50 seconds.
Company **B** supplies water at a rate of 2 gallons per minute.

1 gallon = 4.54 litres.

Company **A** would take more time to fill the tank than Company **B** would take to fill the tank.
How much more time?
Give your answer in minutes, correct to the nearest minute.

What is the rate that Company A fill up the tank?	5 litres ÷ 50 seconds = 0.1 litres per second
How long would it take Company A to fill up the tank?	1200 litres ÷ 0.1 litres per second = 12000 seconds 12000 seconds ÷ 60 seconds = 200 minutes
What is the rate that Company B fill up the tank?	
How long would it take Company B to fill up the tank?	
How much longer do Company A take compared to Company B?	

d) A water tank is empty.
Anil needs to fill the tank with 2000 litres of water.

Company **A** supplies water at a rate of 4 litres in 1 minute and 4 seconds.
Company **B** supplies water at a rate of 1 gallon per minute.

1 gallon = 4.54 litres.

Company **A** would take more time to fill the tank than Company **B** would take to fill the tank.
How much more time?
Give your answer in minutes, correct to the nearest minute.