TEST YOUR KNOWLEDGE
AIR SOURCE HEAT PUMPS



REVISION GUIDE BY ANDREW MACAVOY
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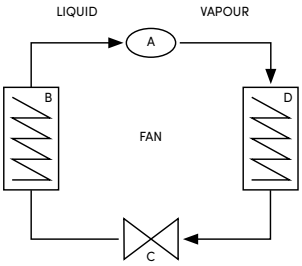
As the industry shifts towards low-carbon solutions, air source heat pumps are becoming a key product for plumbers to understand.

Have a go at answering these multiple-choice questions to see how much you know!

Q1	For every 1kW of electricity used the heat pump produces?	Ans.
A	1-2kW	
B	2-3kW	
C	3-4kW	✗
D	4-5kW	

Q3	The refrigerant passes through as gas and becomes liquid in a:	Ans.
A	Evaporator	
B	Compressor	✗
C	Condenser	
D	Expansion valve	

Q2	Which option correctly identifies the components labelled A, B, C and D in this refrigeration cycle?	Ans.
A	A: Evaporator, B: Compressor, C: Expansion valve, D: Condenser	
B	A: Compressor, B: Evaporator, C: Expansion valve, D: Condenser	✗
C	A: Condenser, B: Compressor, C: Expansion valve, D: Evaporator	
D	A: Evaporator, B: Expansion valve, C: Compressor, D: Condenser	



Q4	This component transfers heat into the system.	Ans.
A	Evaporator	
B	Compressor	
C	Condenser	X
D	Expansion valve	

Q5	Which component changes the state of the refrigerant from liquid to gas exchanging heat absorbing it from the outside air?	Ans.
A	Evaporator	X
B	Compressor	
C	Condenser	
D	Expansion valve	

Q6	Which component reduces pressure turning the refrigerant back to gas creating the cold air?	Ans.
A	Evaporator	
B	Compressor	
C	Condenser	
D	Expansion valve	X

Q7	A vessel used in heating systems to separate primary and secondary circuits and reduce boiler cycling.	Ans.
A	Unvented Cylinder	
B	Direct cylinder	
C	Buffer Tank	X
D	Boiler	

Q8	A valve fitted to heating systems that opens automatically at low temperatures to discharge water and prevent freezing.	Ans.
A	Anti-Freeze valve	X
B	RPZ Valve	
C	TPR Valve	
D	Isolation Valve	

Q9	What size pipes connect to an ASHP?	Ans.
A	15mm	
B	22mm	
C	28mm	X
D	10mm	

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TEST YOUR KNOWLEDGE
SANITATION



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SANITATION

Sanitation is a key part of plumbing, covering everything from basins and baths to correctly sized waste pipes. Knowing how to install and maintain these systems is essential for any plumbing apprentice.

Test your understanding of plumbing sanitation with these multiple-choice questions.

Q1	What is the preferred method for the condensate discharge?	Ans.
A	Gulley	
B	Rainwater stack	
C	Internal stack	✗
D	Kitchen sink	

Q3	What is called the effect of an appliance pulling on its own trap when water is discharged down the appliance waste?	Ans.
A	Self-siphonage	✗
B	Induced Siphonage	
C	Wavering out	
D	Compression	

Q2	What is the maximum length of 32mm waste pipe?	Ans.
A	1.5m	
B	1.7m	✗
C	2m	
D	3m	

Q4	What is the minimum trap seal depth after commissioning?	Ans.
A	20mm	
B	25mm	✗
C	50mm	
D	75mm	

Q5	What is the test pressure on the manometer for air testing of drains?	Ans.
A	20mbar	
B	50mbar	
C	32mbar	
D	38mbar	✗

Q8	Identify the distance for gutter fascia brackets in a heavy snow area.	Ans.
A	800mm	✗
B	700mm	
C	600mm	
D	300mm	

Q6	What size fuse should a macerator use?	Ans.
A	13 amp	
B	5 amp	✗
C	3 amp	
D	1 amp	

Q9	Identify the size of waste pipe going to a dishwasher.	Ans.
A	32mm	
B	40mm	✗
C	50mm	
D	110mm	

Q7	Rainwater is classed as which fluid category?	Ans.
A	1	
B	2	
C	4	
D	5	✗

Q10	What is the British Standard for sanitation?	Ans.
A	BS EN 806	
B	BS EN 8558	
C	BS EN 6700	
D	BS EN 12056	✗

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Q11	Which WC pan operates with negative pressure?	Ans.
A	Single Syphonic	
B	Double Syphonic	✗
C	Washdown	
D	Low level	

Q12	Where would you find an AUK2 air gap?	Ans.
A	Basin	✗
B	Kitchen sink	
C	Toilet cistern	
D	CWSC	

Q13	Which Building regulation covers disabled bathrooms?	Ans.
A	Document N	
B	Document M	✗
C	Document O	
D	Document P	

Q14	What is the trap seal for a WC?	Ans.
A	40mm	
B	50mm	✗
C	60mm	
D	75mm	

Q15	What is the maximum length of 50mm waste pipework?	Ans.
A	2mm	
B	3mm	
C	4mm	✗
D	5mm	

Q16	The radius of a long radius bend is what minimum distance?	Ans.
A	50mm	
B	100mm	
C	150mm	
D	200mm	✗

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MEASUREMENTS

Getting measurements right is crucial in construction - whether it's length, weight, or volume, accuracy matters. Take this quick multiple-choice quiz to test your skills. If you ever need a refresher, you can always come back and try again!

Q1	How far is a kilometre (km)?	Ans.
A	Ten metres	
B	One hundred metres	
C	One thousand metres	✗
D	One million metres	

Q2	Which unit of length is the most suitable for measuring the length of a nail?	Ans.
A	mm	✗
B	cm	
C	m	
D	km	

Q3	Which of these statements is correct?	Ans.
A	1 litre = 10ml	
B	100ml = 1 litre	
C	500ml = Half a litre	✗
D	2000ml = 1 litre	

Q4	A wall is 3m high and 5m long. What is the total area?	Ans.
A	$8m^2$	
B	$10m^2$	
C	$12m^2$	
D	$15m^2$	✗

Q5	Which unit of length is most suitable for measuring the height of a room?	Ans.
A	mm	
B	cm	
C	m	✗
D	km	

Q6	A pipe run requires 4 lengths of 2.4m copper pipe. Each joint requires a 10mm fitting allowance. What is the total length of the pipe run including fittings?	Ans.
A	9.6m	
B	9.63m	✗
C	9.64m	
D	9.7m	

Q7	A pipe length measures 1.5m. How many centimetres is this?	Ans.
A	15cm	
B	150cm	✗
C	1500cm	
D	1.5cm	

Q8	A 150 litre cylinder supplies a 55 litre bath and a 35 litre shower. How much water is left?	Ans.
A	50 litres	
B	56 litres	
C	60 litres	✗
D	65 litres	

Q9	A floor measures 4m by 3m. What is the perimeter?	Ans.
A	7m	
B	12m	
C	14m	✗
D	24m	

Q10	A timber length is 2.4m. How many millimetres is this?	Ans.
A	24mm	
B	240mm	
C	2400mm	
D	24000mm	✗

Q11	A small slab area requires $0.5m^3$ of concrete. Which unit best represents this measurement?	Ans.
A	Volume	
B	Area	✗
C	Length	
D	Weight	

Q12	A plumber spaces pipe clips every 250mm along a 1 metre pipe. How many clips are needed?	Ans.
A	2	
B	3	
C	4	
D	5	✗

Q13	A rectangular room measures 5m by 4m. What is the floor area?	Ans.
A	$9m^2$	
B	$18m^2$	
C	$20m^2$	✗
D	$25m^2$	

Q14	A piece of timber measures 750mm. How many centimetres is this?	Ans.
A	7.5cm	
B	75cm	✗
C	750cm	
D	0.75cm	

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