

October 29, 2014

PURPOSE GET BETTER
AT READING A MANOMETER

WARMUP "Convert 321 torr
into atm."

PLAIN

OCT 20 2014

$$321 \text{ torr} \times \left(\frac{1 \text{ atm}}{760 \text{ torr}} \right) = 0.422 \text{ atm}$$

#1

ambient pressure



standard pressure:
760 mmHg

standard temperature & pressure
(S.T.P.)

760 mmHg and 0°C

#2 "ABSOLUTE ZERO"
 -273°C or 0 kelvins

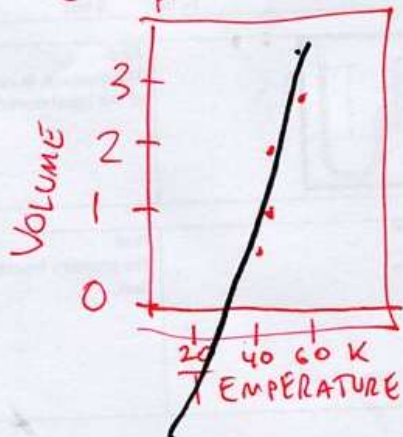
vibrations completely stop
at this temperature

How to use gas volumes
to find absolute zero:

Graph the Volume vs Temperature
and see what temperature
would give zero volume.

That temperature is absolute
zero.

example



ACCORDING
TO THIS
PERSON'S
EXPERIMENT
absolute zero
is about
28 kelvins




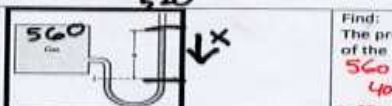

#3 To solve manometer problems

$$\text{Left side pressure} = \text{Right side pressure}$$

$$\text{Ambient} + \text{LIQUID} = \text{FLASK}$$

$$\text{Ambient} = \text{LIQUID} + \text{FLASK}$$

for example:

<p>Givens: The sphere is motionless. The left person is pushing with 40 torr of pressure</p>	 <p>40 torr ??</p>	<p>Find: The push from the right person. 40 torr</p>
<p>Givens: The sphere is motionless. Two of the people have their pressure shown.</p>	 <p>80 torr ?? 50 torr</p>	<p>Find: The push from the unmarked person. 80 = ? + 50 answer: 30</p>
<p>Givens: The sphere is motionless. Two of the pressures are shown</p>	 <p>?? 16 torr 5 torr</p>	<p>Find: The push from the unmarked person. X = 16 + 5 X = 21</p>
<p>Givens: The liquid mercury is motionless. The gas in the box is 560 mmHg The ambient pressure is 520 mmHg.</p>	 <p>560 520 x</p>	<p>Find: The pressure, in mmHg, of the liquid marked "h" 560 = 520 + x 40 = x answer: 40 mmHg</p>
<p>Givens: The liquid mercury is motionless. The pressure from the raised liquid mercury is 118 mmHg. The ambient pressure is 760 torr (760 mmHg).</p>	 <p>118 x</p>	<p>Find: The pressure from the flask. 760 = 118 + x 642 = x answer: 642 mmHg</p>