


PS5
 (24) $D_{Au} = \frac{19.3g Au}{cm^3}$ $\frac{0.135}{9 * ^\circ C}$ $T_i = 75^\circ C ; \Delta T = 47.5$
 $T_f = 27.5$

$D = \frac{m}{V} \Rightarrow V = \frac{m}{D}$

150g H₂O $T_i = 25^\circ C ; \Delta T = 2.5$
 $T_f = 27.5$

Find length of edge of Au cube



$M C \Delta T = M C \Delta T$
 $M (19.3)(47.5) = (150)(4.18)(2.5)$
 $M = 254.09g Au$

Cube $l=w=h \Rightarrow (Side)^3$

cm^3	$254.09g Au$
$19.3g Au$	$= \sqrt[3]{13.17 cm^3} = \sqrt[3]{(Side)^3}$

2.36cm = Side

Oct 28-7:40 AM

(23) 95g X $T_i = 75^\circ C ; \Delta T = 52$
 $T_f = 23$

50g H₂O $T_i = 18^\circ C ; \Delta T = 5$
 $C = 4.18 J/g \cdot ^\circ C$ $T_f = 23$

$M C \Delta T = M C \Delta T$

$\frac{(95) C (52)}{95(52)} = \frac{(50)(4.18)(5)}{95(52)}$

Oct 28-7:56 AM

(22) Fe $V = \frac{4}{3}\pi r^3$ $d_{\text{iron}} = 4\text{cm}$ $r = 2\text{cm}$ $C = 0.45$ $\frac{7.86\text{g}}{\text{cm}^3}$ $T_i = 20$ $T_f = ?$ $\Delta T = (T_f - 20)$

H_2O 90g $C = 4.18$ $T_i = 50$ $T_f = ?$ $\Delta T = (50 - T_f)$

$M C \Delta T = M C \Delta T$
 $(263.31)(0.45)(T_f - 20) = 90(4.18)(50 - T_f)$

$118.49(T_f - 20) = 376.2(50 - T_f)$

$118.49T_f - 2369.8 = 18810 - 376.2T_f$

$+376.2T_f + 2369.8 = 18810 - 376.2T_f + 376.2T_f$

$494.69T_f = \frac{21179.8}{494.69}$

$T_f = 42.8^\circ\text{C}$

$V = \frac{4}{3}\pi r^3 = 33.51\text{cm}^3$
 $\frac{7.86\text{g}}{\text{cm}^3} \times 33.51\text{cm}^3 = 263.31\text{g}$

Oct 28-7:59 AM

Chap 6 LIGHT, ATOMS WAVES

1 Wavelength $1\text{nm} = 10^{-9}\text{m}$

AM Radio

Oct 28-8:12 AM