Tables of Values

$$
\begin{aligned}
& y=x^{3}-2 x+5 \\
& (-3)^{3}-2(-3)+5 \\
& -27+6+5=-16 \\
& (-2)^{3}-2(-2)+5=+6 \\
& -8+4+5=+6 \\
& (-1)^{3}-2(-1)+5 \\
& -1+2+5=+6 \\
& 1^{3}-2(1)+5=4 \\
& 2^{3}-2(2)+5=9 \\
& 3^{3}-2(3)+5=26 \\
& 4^{3}-2(4)+5
\end{aligned}
$$

$x$| -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| -16 | +1 | +6 | +5 | +4 | +9 | +26 | +61 |
| -21 | -6 | -1 | 0 | 3 | 14 | 34 | 84 |

$$
\begin{aligned}
& y=x^{3}+x^{2}+x \\
& (-3)^{3}+(-3)^{2}+(-3) \\
& -27+9-3=-21 \\
& (-2)^{3}+(-2)^{2}+(-2) \\
& -8+4-2=-6 \\
& (-1)^{3}+(-1)^{2}+(-1) \\
& -1+1-1=-1 \\
& x=0 \quad y=0 \\
& 1^{3}+i^{2}+1=3 \\
& 2^{3}+2^{2}+2=14 \\
& 3^{3}+3^{2}+3=39 \\
& 4^{3}+4^{2}+4=84
\end{aligned}
$$

3D Figures

1) A cylinder radius 10 cm , height 25 cm is made of solid metal. It is melted down and made into spheres radius 4 cm . How many spheres are made?

$$
\begin{aligned}
& \text { Vol sphere }=\frac{4}{3} \pi r^{3} \\
& \text { Vol of cylinder } \pi r^{2} L= \\
& =\pi \times 10^{2} \times 25 \\
&
\end{aligned} \begin{aligned}
& =2500 \pi \mathrm{~cm}^{3}
\end{aligned}
$$

Vol of sphere $=\frac{4}{3} \pi r^{3}=\frac{4}{3} \times \pi \times 4^{3}=\frac{256 \pi}{3}$
Number of spheres $=\frac{2500 \pi}{\frac{256}{3} \pi}=29.3$

$$
\therefore 29 \text { spheres }
$$

2) A solid cone has volume $12 \pi \mathrm{~cm}^{3}$ and radius 3 cm Find its surface area.

$$
\begin{aligned}
\text { Vol of cone } & =\frac{1}{3} \pi r^{2} h \quad \text { Curved Surface Area } \\
& =\pi r e
\end{aligned}
$$

