|  |  |
| --- | --- |
| **Fill in the Blanks** | **Roots of Cubic Equations** |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Cubic Equation**  | $$α$$ | $$β$$ | $$γ$$ | $$α+β+γ$$ | $$αβ+βγ+γα$$ | $$αβγ$$ | $$\frac{1}{α}+\frac{1}{β}+\frac{1}{γ}$$ |
| $$ z^{3}$$ | $$-4$$ | $$1$$ | $$2$$ |  |  |  |  |
| $$ 6z^{3}$$ | $$\frac{1}{2}$$ | $$-2$$ | $$\frac{2}{3}$$ |  |  |  |  |
|  $2z^{3}$ |  | $$5$$ | $$-\frac{1}{2}$$ |  |  | $$5$$ |  |
| $$z^{3}+5z^{2}-2z-24=0$$ | $$-4$$ |  |  |  |  |  |  |
| $$6z^{3}+23z^{2}-38z-15=0$$ |  | $$-5$$ |  |  |  |  |  |
| $$ z^{3}$$ | $$3+i$$ |  | $$2$$ |  |  |  |  |
|  $ z^{3}$ |  | $$1-2i$$ |  |  |  | $$-15$$ |  |
| $$z^{3}-5z^{2}+12z-8=0$$ | $$2+2i$$ |  |  |  |  |  |  |
| $$6z^{3}-8z^{2}+5z-1=0$$ |  |  | $$\frac{1}{3}$$ |  |  |  |  |