H1 (1/1 point)

Use 3 types of colored beads to seal onto the vertices of a regular pentagon, how many possible solutions are there?

Hint: The bead is a full round bead

39

39

Answer: 39

No movement：$(1)^5$

Rotate 72°、144°、216°、288° : $(5)^1$ four

Symmetry axis flipping $(1)^1(2)^2$ five

totally：$\frac{1}{10}\left[3^5+4\times 3+5\times 3^3\right]=39$ methods

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H2 (1/1 point)

Paint the 4 faces of a regular tetrahedron by using 3 types of colors, how many possible solutions are there?

15

15

Answer: 15

EXPLANATION

No movement :$(1)^4$ one situation

Made the top vertice and the opposite center as shaft, rotate $120^\circ, 240^\circ$: $(1)^1(3)^1, 4*2=8 situation$

Made 3 pairs of edge point line of tetrahedron as shaft rotate180° : $(2)^2$ 3 situation

totally $\frac{1}{12}\left[3^4+8\times 3^2+3\times 3^2\right]=15$

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