

第12回 倍角の公式(1)《練習問題》

$$\boxed{1} \quad (1) \quad -\frac{4\sqrt{2}}{9}$$

$$(2) \quad \frac{7}{9}$$

$$(3) \quad -\frac{4\sqrt{2}}{7}$$

$$\boxed{2} \quad (1) \quad \frac{120}{169}$$

$$(2) \quad -\frac{119}{169}$$

$$(3) \quad -\frac{120}{119}$$

$$\boxed{3} \quad \cos 3\alpha$$

$$= \cos(\alpha + 2\alpha)$$

$$= \cos \alpha \cos 2\alpha - \sin \alpha \sin 2\alpha$$

$$= \cos \alpha (2 \cos^2 \alpha - 1) - 2 \sin^2 \alpha \cos \alpha$$

$$= \cos \alpha (2 \cos^2 \alpha - 1) - 2(1 - \cos^2 \alpha) \cos \alpha$$

$$= -3 \cos \alpha + 4 \cos^3 \alpha$$