

$$\frac{z^2 - 49}{6z^2 + 1} \left( \frac{42z + 1}{z - 7} + \frac{42z - 1}{z + 7} \right)$$

$$1) \quad \frac{42z + 1}{z - 7} + \frac{42z - 1}{z + 7} = \frac{(z + 7)(42z + 1) + (z - 7)(42z - 1)}{(z - 7)(z + 7)}$$

$$= \frac{42z^2 + z + 294z - 7 + 42z^2 - z - 294z + 7}{z^2 - 49} =$$

$$= \frac{84z^2 + 14}{z^2 - 49}$$

$$2) \quad \frac{\cancel{z^2 - 49}}{6z^2 + 1} \cdot \frac{84z^2 + 14}{\cancel{z^2 - 49}} = \frac{84z^2 + 14}{6z^2 + 1}$$