CONCEPT: CYTOKINESIS

● **Cytokinesis** completes M phase by cleaving the cytoplasm into _____ cells

□ **Mitotic spindle** is disassembling in cytokinesis BUT it positions the *cleavage furrow*

- The **cleavage furrow** is a puckering of the plasma membrane where the cell will split into two

- Mostly results in symmetrical division – but not always (developing into different cell types)

- **Contractile ring** is formed during anaphase and is made of actin and myosin filaments

- It exerts a force on the plasma membrane to assist cytokinesis

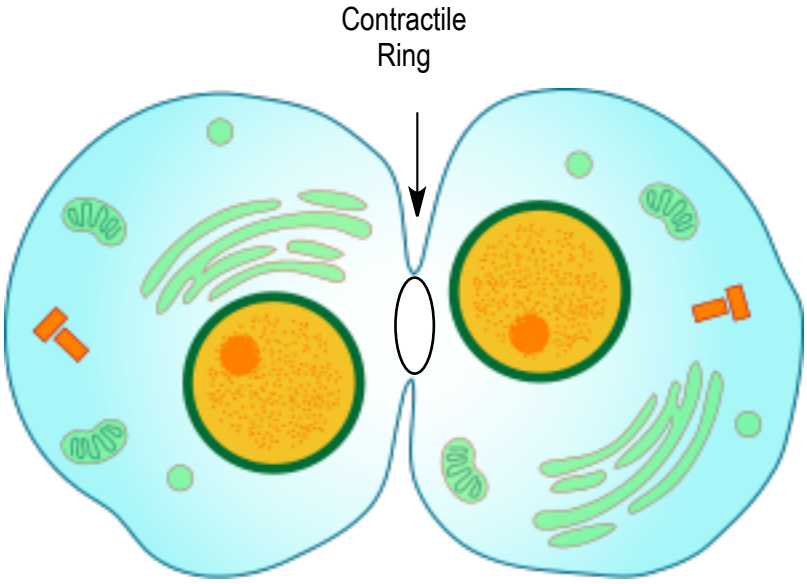
- **RhoA** is a GTPase that triggers contractile ring formation

□ Plant cells need to also create a new _____ after division

- **Phragmoplast** is a structure formed by microtubules which helps assemble the new cell wall

- The phragmoplast forms a **cell plate** (cell wall pre-cursor) inside the cell

EXAMPLE: Contractile ring in two dividing cells



PRACTICE:

1. Which of the following structures is responsible for cleaving the cell into two cells?
    a. Phragmoplast
    b. Cleavage Furrow
    c. Contractile Ring
    d. Cell Plate

2. Which of the following structures is a precursor to a cell plate in plant cells?
    a. Phragmoplast
    b. Cleavage Furrow
    c. Contractile Ring
    d. Cell Plate