1. **Name the two general types of plant propagation.**
   Sexual and asexual *(p. 61)*

2. **What four environmental factors affect germination?**
   - Water *(p. 62)*
   - Oxygen *(p. 62)*
   - Light *(p. 62)*
   - Heat *(p. 62)*

3. **Does lettuce seed require light or darkness for germination? How about calendula?**
   Lettuce needs light. Calendula needs darkness *(pp. 62-63)*.

4. **What is stratification used for?**
   To artificially provide a cold, dormant period for seeds that require these conditions before germinating *(p. 64)*.

5. **When pasteurizing soil, what temperature should the soil be? How long must it be kept at this temperature?**
   140°F for at least 30 minutes *(p. 65)*.

6. **When is the ideal time to transplant seedlings from a germination container to a larger container?**
   When the first true leaves appear above or between the cotyledon leaves *(pp. 68-69)*.

7. **What three environmental factors are manipulated to harden seedlings before they are moved outdoors?**
   - Temperature *(p. 69)*
   - Water *(p. 69)*
   - Relative humidity *(p. 69)*
8. What are the three types of stem cuttings?
   - Tip (p. 71)
   - Medial (p. 71)
   - Cane (p. 71)

9. Which type of layering might be used to propagate a rubber tree growing indoors?
   Air layering (p. 74)

10. What four conditions are necessary for successful grafting?
    - The rootstock and scion varieties must be compatible (p. 75).
    - The plants must be at a proper stage of development (p. 75).
    - The cambial layers must be joined (p. 75).
    - The graft union must be kept moist (p. 75).

11. What is the most commonly used method of budding?
    T-budding (p. 78)

12. Successful propagation using tissue culture relies on sanitation and using disinfected plant material. What can you use to disinfect plant material?
    A mixture of 1 part commercial bleach and 9 parts water. Soak the plant material in this mixture for 8 to 10 minutes (p. 79).
1. **List three or four reasons why you would want to prune your plants.**
   - To maintain plant health (pp. 81, 83-84)
   - To improve the quality of flowers, fruit, foliage, and stems (pp. 81, 84)
   - To restrict growth (pp. 81, 84)
   - To train a plant (pp. 81, 83)

2. **Unsanitary pruning tools can spread disease organisms from diseased plants to healthy plants. How can you prevent this problem?**
   - By sterilizing your pruning tools with alcohol or a mild bleach solution after each cut (pp. 83-84)

3. **Briefly describe the two types of pruning cuts and the purpose of each.**
   - *Heading cuts* involve cutting off part of a shoot or limb. They increase the number of new shoots, stimulate new growth, and stiffen branches (pp. 85-86).
   - *Thinining cuts* remove undesired wood, resulting in a more open plant (p. 86).

4. **Mr. Smith is anxious to remove a diseased 2.5"-diameter branch from his oak tree. He plans to use a chain saw and make one cut on the branch, flush with the trunk. What are the potential problems with his plan?**
   - A chain saw is not a proper tool for pruning (p. 85).
   - When pruning a branch greater than 1.5" in diameter, he needs to make three cuts (p. 87).
   - The final cut should be flush with the branch collar, not the trunk (p. 87).

5. **What is one of the most important factors to consider when pruning a flowering tree or shrub?**
   The time of year to prune, based on whether the plant flowers on old wood or new wood (p. 97)

6. **Should all fruit trees be pruned the same, regardless of the kind of tree (e.g., apple vs. peach)?**
   No, different kinds of fruit trees require different pruning techniques (pp. 89-96).
1. In what kind of soil do tree fruits grow best? (Mark the one best answer.)
   (c) Well-drained, deep soils (p. 207)

2. Name the two most common scab-resistant apples.
   Chehalis and Liberty (p. 209)

3. Name two common scab-resistant and powdery-mildew-resistant apples.
   Liberty and Prima (p. 209)

4. A tree planted on M26 rootstock will grow to what percentage of the size of a seedling tree?
   50 percent (p. 211)

5. Are Lapin cherries self-fruitful?
   Yes (p. 212)

6. What are the ways to thin fruit from trees?
   • Manually (picking off either blossoms or fruit)—the most common method for home orchards (p. 215)
   • Mechanically (knocking the fruit off) (p. 214)
   • Chemically (spraying with plant growth regulators) (p. 214)
   • Naturally (e.g., from freezing weather)
1. **Optimum temperature, light, and humidity are necessary for a houseplant to thrive.** Briefly describe how you can manage each of these.
   - **Temperature**—Plants can tolerate a broad range of temperatures, but don't do well when exposed to extremes. Allow the plant to adapt to different temperatures by slowly raising or lowering the temperature over a period of a few days or weeks. Some rooms are warmer than others. Keep plants in a room where temperature conditions meet their needs (pp. 286-287).
   - **Light**—For more light, move the plant to a room with southern exposure, or use supplemental lighting. For less light, move the plant away from the light source or use a barrier (e.g., curtains or blinds) to reduce the amount of light that enters the room (p. 286).
   - **Humidity**—Most houseplants need more humidity than what is found in most homes. Increase humidity near a plant by placing it in a shallow tray with moist gravel, by placing moistened sphagnum moss around the plant, by growing many plants together, or by using a humidifier (p. 287).

2. **Proper watering is essential for houseplants to thrive.** What are some watering guidelines?
   - Use a high-quality potting mix (pp. 287, 290-291).
   - Make sure containers have at least one drainage hole so excess water can drain away (pp. 287, 289).
   - Apply enough water so that it runs out the bottom drainage hole each time you water (p. 287).
   - Do not allow pots to sit in excess water (p. 288).
   - Water plants when they need it, not on a set time schedule (p. 288).
   - Reduce watering during winter (p. 288).
   - Twice a year, take some extra time and flush out the soluble salts that may have accumulated in the pots (p. 288).
3. **Houseplants can experience a number of pest problems. How can you avoid some of these?**
   - Inspect new plants before you bring them home, quarantine them for a couple of weeks, and keep an eye on them for pests. Treat plants that you have put outside during the summer the same way when you bring them inside in the fall (p. 300).
   - Don't use soil from outdoors in a potting mix unless you pasteurize it first. A better option is to use a commercially prepared mix (pp. 300).
   - Don't handle other people's plants (p. 300).
   - Make sure screen doors and windows are tight to exclude pests (p. 300).
   - Do regular maintenance on your plants to remove dead leaves and other debris where pests can hide (p. 300).

4. **What are some issues you need to consider if you decide to use chemical pest control on your houseplants?**
   - Use only a product labeled for use indoors. (There are very few.) (p. 306)
   - It's best to treat the plants outside to avoid contact with kitchen areas, children and pets (p.306).
   - Some products may damage plants (e.g., they may cause leaf burn, curled leaves, or distorted flower buds) (p. 306).