



Floriculture Career Development Event 2023

PROBLEM-SOLVING TEST

1. Using the 2023 Ball Seed Company Product Guide as a reference, what do the letters m, l, t, f, and p represent?
 - A. Media, Light, Tropical, Fruit, Production
 - B. Multicultural, Level 3 or 4, Telophase, Seed Form, Pan American Seed
 - C. Monitor, Lateral, Trace, Flower, Plug
 - D. Moisture, Light, Temperature, Fertilizer, Plant Growth Regulator

2. You are growing poinsettias in your school greenhouses. You have two greenhouses, one is 22' X 60' and the other is 28' X 66'. You have peninsular bench arrangement in both greenhouses. Each bench is 5' wide. There is a 4' walkway down the middle of each greenhouse. There is a 3' walkway between each of the peninsular benches. If you are growing 8" pots of poinsettias on 18" spacing, how many pots of poinsettias are growing in the two greenhouses?
 - A. 280 pots of poinsettias
 - B. 696 pots of poinsettias
 - C. 416 pots of poinsettias
 - D. 820 pots of poinsettias

3. Use the 2023 Ball Seed Product Information Guide to answer this question. Of the four lists of perennials, which list has plants that will grow in hardiness zones 7, 8, and 9?
 - A. Campanula, Delphinium-guardian, Lobelia, Rudbeckia, Scabiosa
 - B. Echinacea, Gaillardia, Heuchera, Hisbiscus, Scabiosa
 - C. Armeria, Coreopsis, Delphinium-grandiflora, Leucanthemum,
 - D. Verbena-Rigida
 - E. Armeria, Dianthus, Lavandula-Blue Spear, Salvia-nemorosa, Verbena-Rigida

4. Price the garden basket in the picture for a retail floral shop using the retail price guide in this question. What is your final retail price for the garden basket?

4" Orchid Plant-\$18
4" Bromeliad Plant-\$8
4" Cyclamen-\$8
4" Foliage Plant-\$6
6" Spider Plant-\$10
4" Croton-\$5
6" Arrowhead Plant-\$12
6" Pothos-\$8
6" Hydrangea Plant-\$25
Spanish Moss-\$3
Basket-\$22



- A. \$92
B. \$50
C. \$85
D. \$79

5. You are applying ARIA insecticide to greenhouse crops to control whiteflies. The infestation is high so you decide to apply the insecticide at the highest rate recommended on the label. How much ARIA do you mix in a 5 gallon spray tank for whiteflies?

- A. 3 grams
B. 4.3 grams
C. 6 grams
D. 80 grams

6. Your horticulture teacher wants you to develop an order for pro-mix for the spring plant growing season. You are going to order the 3.8 cu. ft. bales from Hummert International. This is the projected needs for the spring greenhouse sale:

172 - 6" azalea pots

42 - 8" saucerless baskets

80 - 8" azalea pots

36 - 1 gallon nursery containers

120 - 12-4 cell packs per trays

54 - 2 gallon nursery containers

368 - 4" square pots

62 - 8-4 cell packs per tray

216 - 10" baskets

How many 3.8 cu. ft. bales of pro-mix does your program need to order for growing the spring plants in the list of containers?

- A. 16 bales
B. 245 bales
C. 9.5 bales
D. 50 bales
7. You are mixing fertilizer for a Dosatron injector. The injector is on a 35 gallon tank. If the mixing ratio is 1:100, how many ounces of soluble fertilizer needs to be mixed with the water in the tank?
- A. 89.6 ounces
B. 8.96 ounces
C. 22.4 ounces
D. 44.8 ounces

Use the Ball Seed Mum Growing Guide to answer the next three questions:

8. You are selecting mum varieties to grow that will give you a saleable product for early, mid-season, late-season, and very late-season flowering. You also need varieties that will give your customers four color choices. Which list of mum varieties will give you plants to meet the season and color characteristics you need? You also want the varieties you choose to be the mounded growth habit.
- A. Buttercup Yellow, Poppin Purple, Sunset Orange, Avalon Red
 - B. Cranberry Red, Zinger Yellow, Paintbox Purple, Blazing Orange
 - C. Aspen White, Stellar Pink, Autumn Glow Bronze, External Red
 - D. Goldmine Yellow, Carousel White, Wicked Purple, Avalon Red

9. Which of the following scenarios is the correct one for how to start and grow mums to produce a saleable plant?
- A. Rooted cuttings placed in the greenhouse with a minimum temperature of 60-62 degrees
 - Do not hold the liners for longer than 2-3 days before planting
 - Media should be at a pH of 5.8-6.4 for soilless media and 6.0-6.5 for a soil-based mix
 - Use a 20-10-20 fertilizer at 300-400 ppm on the liners and immediately after planting
 - Grow in full sun
 - Space plants correctly
 - Feed with a 20-10-20 or a 20-20-20 fertilizer at 250-350 ppm N
 - B. Rooted cuttings placed in the greenhouse with a minimum temperature of 60-62 degrees
 - Plant the liners at least one week after receiving them
 - Media should be at a pH of 5.8-6.5
 - Use a 20-10-20 fertilizer at 300-440 ppm on the liners and immediately after planting
 - Can grow the mums in full sun or partial shade
 - Space plants correctly
 - Feed with 20-20-20 fertilizer at 250-350 ppm phosphorus
 - C. Rooted cuttings refrigerated upon arrival
 - Plant immediately
 - Soilless media at a pH of 5.8-6.4 and soil-based media at 6.0-6.8
 - Use 10-10-10 fertilizer at 250-350 ppm initially and during the growth period
 - Grow in shaded conditions
 - Keep the plants pot tight initially and only slightly separate to insure growth
 - D. Rooted cuttings should be planted in 2-3 days of arrival
 - Fill containers and moist prior to planting
 - Soil pH should be between 5.6-6.6
 - Use 20-10-20 fertilizer at 300-400 ppm initially and decrease to 250-350 ppm as growth occurs
 - Space plants correctly and grow in full sun

10. You are asked to develop the order for next year's fall mum crop. You are going to order liners and order four varieties: Hot Spot Bronze, Carousel White, Roaring Red, and Avalon Purple. You are planning to put liners in four sizes of pots: 6", 8", ½ bu basket, and a 12" color bowl. You look at the planting chart and decide to plant the lowest number of plants in a 6" pot, the medium range in the 8" pot, the max number in the ½ bu. basket, and the medium recommendation for the 12" color bowl.

You want plants for the following number of pots and varieties:

Hot Spot Bronze:

10 of the 6", 8 of the 8", 2 of the ½ bu bsk, and 2 of the 12" color bowl

Carousel White:

5 of the 6", 4 of the 8", 2 of the ½ bu. bsk., and 2 of the 12" color bowl

Roaring Red:

12 of the 6", 8 of the 8", 2 of the ½ bu. bsk., and 2 of the 12" color bowl

Avalon Purple:

8 of the 6", 8 of the 8", 2 of the ½ bu. bsk., and 2 of the 12" color bowl

What is the correct answer for the number of plants of each variety that you need to order:

- A. Hot Spot Bronze-54, Carousel White-36, Roaring Red-58, Avalon Purple-50
- B. Hot Spot Bronze-46, Carousel White-33, Roaring Red- 48, Avalon Purple-44
- C. Hot Spot Bronze- 42, Carousel White-29, Roaring Red- 44, Avalon Purple-40
- D. Hot Spot Bronze-44, Carousel White-31, Roaring Red- 46, Avalon Purple-42