

**2016 University of Minnesota FFA Invitational  
Nursery/Landscape Exam**

Multiple choice:

- 1) Which of the following plants is best suited to wet conditions:
  - a) Willow
  - b) Maple
  - c) Oak
  - d) Honey Locust
  
- 2) Maples have leaves that are arranged in a(n) \_\_\_\_\_ pattern.
  - a) Decorative
  - b) Opposite
  - c) Alternate
  - d) Whorled
  
- 3) Trees that are dioecious have:
  - a) Flowers with both male and female reproductive parts
  - b) Only male or female flowers, but not both.
  - c) Both male and female flowers on the same plant.
  - d) Thick bark
  
- 4) Drip irrigation will help control
  - a) Insects
  - b) Diseases
  - c) Excessive growth
  - d) Cation Exchange Capacity
  
- 5) A major disease affecting apple trees is:
  - a) Black knot
  - b) NPV virus
  - c) X virus
  - d) Fire blight
  
- 6) Lilacs bloom in the:
  - a) Winter
  - b) Spring
  - c) Summer
  - d) Fall
  
- 7) Which type of plant production system removes the least roots at harvest:
  - a) Balled and Burlapped
  - b) Container grown
  - c) Bare Root
  - d) Rip and tug
  
- 8) Which of the following grows the slowest:
  - a) Walnut
  - b) Maple
  - c) Poplar
  - d) Willow

- 9) What is the safest time to prune a tree in terms of disease control:
- December
  - June
  - August
  - July
- 10) In the summer nitrogen can be made unavailable to plants growing in a non-sterile media because
- There is a high Carbon: Nitrogen ratio
  - The nitrogen is in applied as ammonia
  - The nitrogen is applied as nitrate
  - The nitrogen is applied as a salt
- 11) As pH increases from 6 to 8 in the soil what elements are likely be lacking in the plant:
- Ca and Mg
  - Mg and Mn
  - Mn and Fe
  - Fe and Ca
- 12) Fertilizer reaches the root system of a plant most rapidly using:
- Liquid fertilization
  - Granular fertilization
  - Top dressed slow release fertilization
  - Compost
- 13) Which produces the best fall color:
- Red Maple
  - Blue Spruce
  - Black Walnut
  - Cottonwood
- 14) Which plant has perfect flowers (flowers with both male and female parts):
- Black Walnut
  - Azalea
  - White Pine
  - Ash
- 15) Which plant is the best groundcover:
- Pachysandra
  - Shrub Rose
  - Potentilla
  - Hackberry
- 16) Which nutrient is most responsible for excessive algae growth in lakes:
- Potassium
  - Boron
  - Manganese
  - Phosphorus

- 17) When planting a tree or shrub it is best to plant with the root flare:
- At the soil surface
  - Below the soil surface
  - Far below the soil surface
  - Above the soil surface.
- 18) Seeds survive Minnesota winters because:
- They have a hard outer coat
  - They are high in salt.
  - They are dehydrated
  - They are small
- 19) Which has the most ornamental bark:
- Amur maple
  - Honey Locust
  - Green Ash
  - Paper Birch
- 20) Eutrophication is most likely a problem
- When using a well
  - When recycling drainage water
  - When using municipal water
  - Using rain water
- 21) One of the many reasons that field soil should not be used for container media is because
- It contains few micronutrients
  - It increases the chance of transplant shock
  - It is not sterile
  - It might contain sand
- 22) Which of the following can be used to encourage leaf drop of woody ornamentals.
- Ethephon
  - Methyl Bromide
  - Guthion
  - Auxin
- 23) A plant having the ability to outgrow a pest infestation would be \_\_\_\_\_ to/of that pest.
- Tolerant
  - Resistant
  - Indifferent
  - apoplectic
- 24) Frost protection provided by sprinklers is realized primarily through:
- Heat of fusion
  - Insulation
  - Water is warmer than freezing when it hits the plants thus keeping the plants temperature above freezing.
  - Warm water

- 25) The most cold sensitive parts of a plant are it's:
- a) Shoots
  - b) Roots
  - c) Buds
  - d) Leaves
- 26) One hundred pounds of 10-5-4 fertilizer contains \_\_\_\_\_ pounds of potassium.
- a) 4
  - b) 5
  - c) 10
  - d) 8
- 27) Has outstanding form, texture, seasonal interest:
- a) Group planting
  - b) Shrub planting
  - c) Specimen plants
  - d) Foundation plantings
- 28) For landscape design purposes the recreational area of the yard would be called the \_\_\_\_\_ area.
- a) Public
  - b) Private
  - c) Service
  - d) Open
- 29) Evergreens:
- a) Never lose needles
  - b) Lose needles at a gradual rate over one or more years
  - c) Lose their needles every 5 years
  - d) None of the above
- 30) One control for apple scab is to spray with a \_\_\_\_\_
- a) Fungicide
  - b) Miticide
  - c) Herbicide
  - d) None of these

**2016 University of Minnesota FFA Invitational  
Nursery/Landscape Exam Key**

*EXAM AREA*

1. A
2. B
3. B
4. B
5. D
6. B
7. B
8. A
9. A
10. A
11. C
12. A
13. A
14. B
15. A
16. D
17. A
18. C
19. D
20. B
21. C
22. A
23. A
24. A
25. B
26. A
27. C
28. B
29. B
30. A

**2016 U of MN FFA Invitational  
Nursery/Landscape Practicum # 1  
Volume and area for different plots**

**Use the Jones residence drawing to answer questions 1-10**

1. What is the area of the entire lot in square feet?  
A. 28,750 sq. ft.      C. 34,750 sq. ft.  
B. 33,250 sq. ft.      D. 35,250 sq. ft.
2. What is the area of the section labeled "LAWN A"?  
A. 8425 sq. ft.      C. 8625 sq. ft.  
B. 8575 sq. ft.      D. 8875 sq. ft.
3. What is the area of the driveway if it is eight feet wide?  
A. 520 sq. ft.      C. 600 sq. ft.  
B. 560 sq. ft.      D. 640 sq. ft.
4. "LAWN C" covers 1650 sq. ft. What is the width of the house?  
A. 16 ft.      C. 20 ft.  
B. 18 ft.      D. 22 ft.
5. The patio is 12' by 8'. How many cubic feet of sand is needed if the base is 4 inches deep?  
A. 46 cu. ft.      C. 50 cu. ft.  
B. 48 cu. ft.      D. 52 cu. ft.

**Mr. Jones plans to either seed or sod the lawn area. He has found cost of seed is \$2.99 per pound. One pound will cover 450 square feet. Sod will cost him \$1.95 per yard. The area is 12,700 sq. ft.**

6. How many pounds of seed will he have to buy to cover 12,700 sq. ft.?  
(Round the pounds up to the nearest whole pound)  
A. 25 lbs.      C. 29 lbs.  
B. 27 lbs.      D. 31 lbs.
7. If the total lawn area was 12,700 square feet, what would the cost of the seed be? (Round the pounds up to the nearest whole pound)  
A. \$ 74.75      C. \$ 92.69  
B. \$ 86.71      D. \$ 94.71
8. How many yards of sod would he need to buy? (Round up to a whole yard)  
A. 1412 yds.      C. 1452 yds.  
B. 1432 yds.      D. 1472 yds.
9. What would the cost of sodding be per given information above?  
A. \$ 2733.40      C. \$ 2773.40  
B. \$ 2753.40      D. \$ 2793.40
10. Mr. Jones would also like to plant a single row of shrubs along the east edge of the property. If the shrubs were placed at 5 foot on center, how many shrubs would be required?  
A. 25      C. 35  
B. 30      D. 40

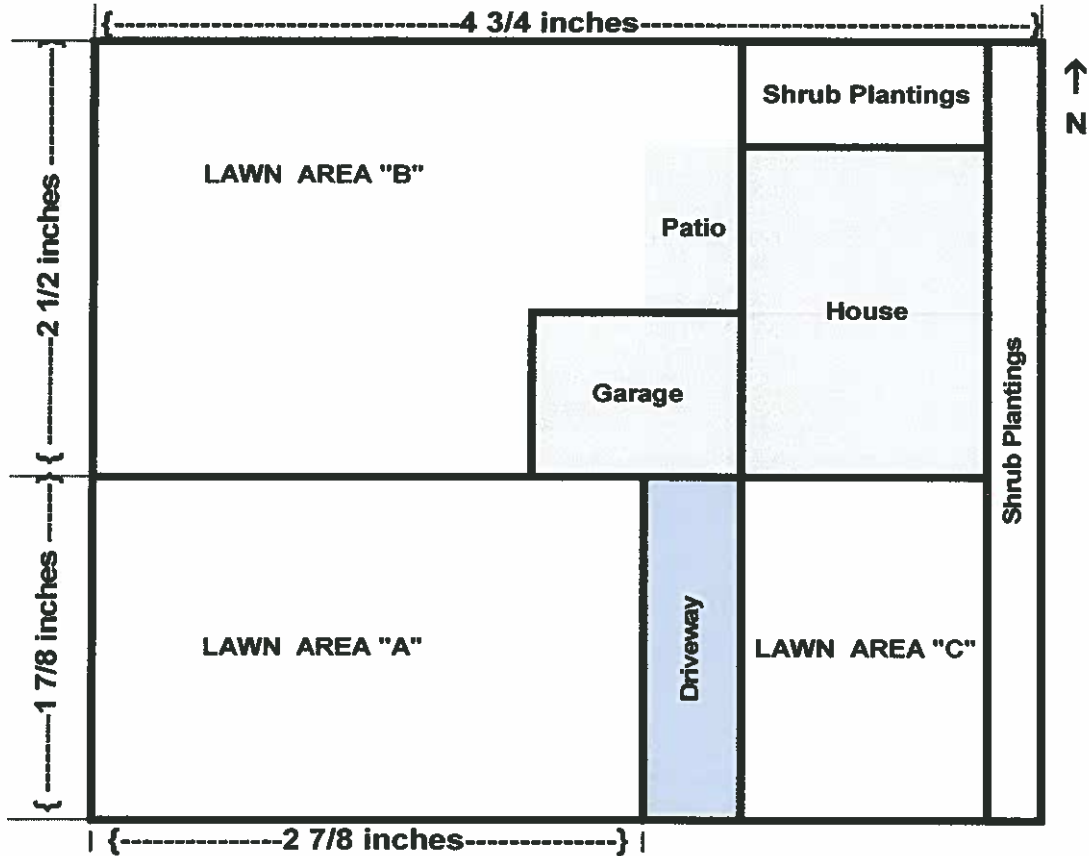
**2016 U of MN FFA Invitational  
Nursery/Landscape Practicum # 2  
Estimate materials for a given landscape plan**

**Use the butterfly garden landscaping plan answer questions 11-20. Answers can be used more than once.**

- |     |  |                              |
|-----|--|------------------------------|
| 11. | How many Spike blazing star plants are needed?                         | Answers for questions 11- 13 |
|     |  | A. 6                         |
| 12. | How many Verbena plants are needed?                                    | B. 8                         |
|     |  | C. 10                        |
| 13. | How many Coreopsis plants are needed?                                  | D. 12                        |
|     |  |                              |
| 14. | How much would the Black-eyed Susan plants cost at \$ 4.95 each?       | Answers for questions 14- 17 |
|     |  | A. \$ 15.80                  |
| 15. | How much would the Purple Coneflowers cost at \$ 3.95 each?            | B. \$ 19.80                  |
|     |  | C. \$ 27.65                  |
| 16. | How much would the Verbena cost at \$ 4.45 each?                       | D. \$ 44.50                  |
|     |  |                              |
| 17. | How much would the Butterfly bushes cost at \$ 9.90 each?              |                              |
|     |  |                              |
| 18. | What is the largest plant in the butterfly garden?                     | Answers for questions 18-20  |
|     |  | A. Boxwood                   |
| 19. | Which plant is uses the principle of repetition throughout the garden? | B. Dwarf Korean lilac        |
|     |  | C. Goldenrod                 |
| 20. | Which perennial is not suited very well for Minnesota's winters?       | D. Verbena                   |

2016 U of MN FFA Invitational  
Nursery/Landscape Practicum # 1  
December 15, 2016

Mr. Jones Residence



Scale 1 inch = 40 feet

Use the information on this diagram to answer the questions on the following page

OVER



2016 U of MN FFA Invitational  
 NURSERY/LANDSCAPING PRACTICUM #2

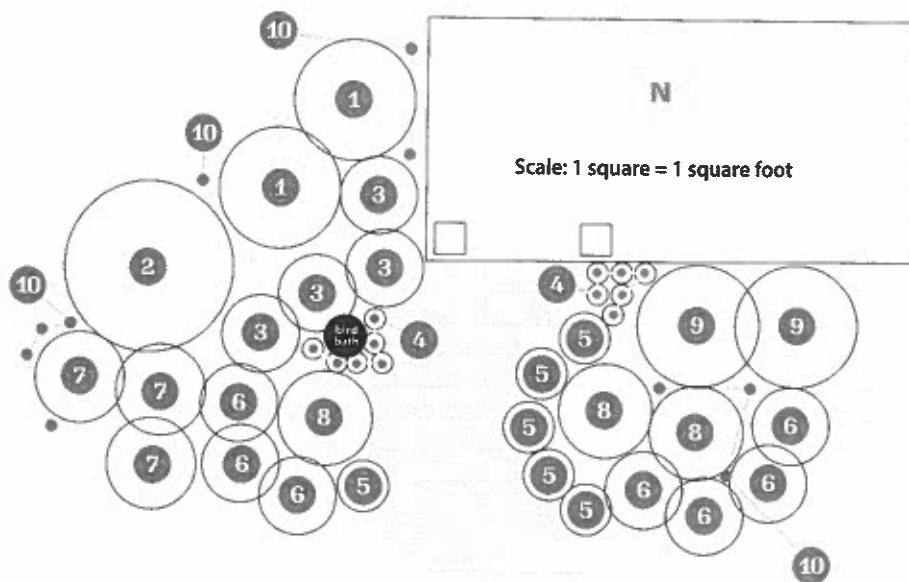
plants to attract  
**butterflies**



key

Plant Name

- 1 Butterfly bush 'Black Knight'
- 2 Dwarf Korean lilac 'Palibin'
- 3 Black-eyed Susan 'Goldsturm'
- 4 Spike blazing star 'Kobold'
- 5 Coreopsis 'Early Sunrise'
- 6 Purple coneflower
- 7 Shasta daisy 'Becky'
- 8 Boxwood 'Green Velvet'
- 9 Goldenrod 'Fireworks'
- 10 Verbena (allow to reseed)



2016 U of MN Invite Nursery Practicum Key / *Assessment & Solution Area*

1. B. 33,250 square feet
2. C. 8625 square feet
3. C. 600 sq. ft.
4. D. 22 ft.
5. B. 48 cu. ft.
6. C. 29 lbs.
7. B. \$ 86.71
8. A. 1412 yds.
9. B. \$ 2753.40
10. C. 35
  
11. D. 12
12. C. 10
13. A. 6
14. B. \$ 19.80
15. C. \$ 27.65
16. D. \$ 44.50
17. B. \$ 19.80
18. B. Dwarf Korean lilac
19. D. Verbena
20. A. Boxwood