

2014 Iowa FFA Landscape/Nursery CDE
General Knowledge Examination
June, 2013 – Kirkwood Community College

Directions:

All answers will be placed onto the score sheet provided. On the answer sheet, be certain to fill in your name, your chapter, and your contestant number. When answering, fill in the bubbles completely and if you change an answer, be certain to erase fully.

1. Use the textural triangle, below, to **classify a soil** that is 10% clay and 30% silt:

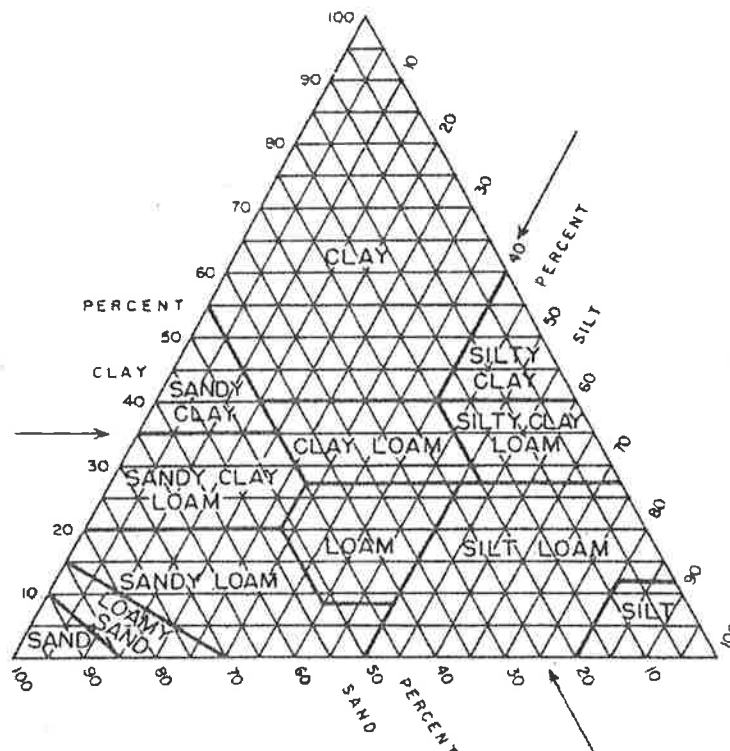


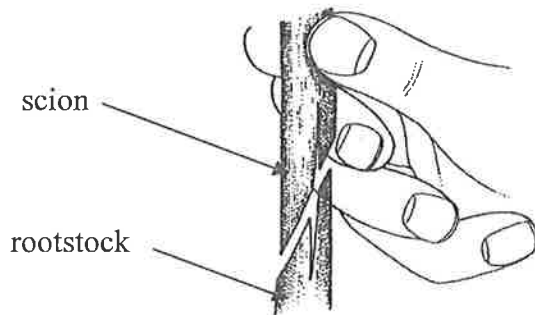
Figure 2-3. THE TEXTURAL CLASSIFICATION TRIANGLE

- A) loam
- B) sandy loam
- C) silt loam
- D) silty clay loam

2. Soil testing can involve many different measurements that provide horticulturalists with the information they need to determine the suitability of a site for the growth/production of ornamental plants. Which of the following soil tests is measured on a scale from 0 - 14 with 7 being neutral.

A) soil texture
B) bulk density
C) cation exchange capacity
D) soil pH

3. Which **grafting technique** is illustrated in the picture below:

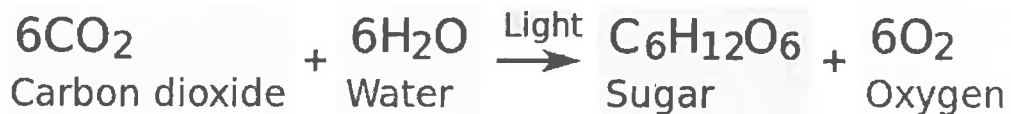


- A) side veneer
B) whip and tongue
C) splice
D) apical wedge or cleft
4. The **USDA Plant Hardiness Zone Map** is the standard by which gardeners and growers can determine which plants are most likely to thrive at a specific location. According to this map nearly the entire **state of Iowa** falls into which of the following zones:
- A) zone 6
B) zone 5
C) zone 4
D) zone 3

5. Larger balled & burlapped shade trees like ash, oak, and maple are **size graded** by:

- A) crown spread measured in feet
- B) stem caliper (or diameter) measured in inches
- C) height measured in feet
- D) age of the tree measured in years

6. Which **plant biochemical reaction** is summarized by the reaction shown below:



- A) respiration
- B) transpiration
- C) photosynthesis
- D) translocation

7. Which of the following plants is considered a **coniferous (cone-bearing) evergreen**:

- A) Oak (*Quercus*)
- B) Spruce (*Picea*)
- C) *Spiraea*
- D) Boxwood (*Buxus*)

8. On warm, sunny days plants **lose** considerable amounts of **water vapor** through small pores on the undersides of their leaves called stomata. This important plant process is called:

- A) respiration
- B) photosynthesis
- C) transpiration
- D) translocation

9. Which of the following **plant structure** is a modified, underground stem that grows parallel to the soil surface and is capable of producing new shoots (stems) and roots. *Iris*, plus many groundcovers and grasses have them:
- A) stolons
 - B) bulb
 - C) rhizomes
 - D) tuber
10. The **pruning technique** used to remove old, spent flowers and stimulate additional flowering is called:
- A) deadheading
 - B) heading back
 - C) pinching
 - D) shearing
11. **Chlorophyll** is found in which of the following cell structures:
- A) mitochondria
 - B) ribosomes
 - C) chromosomes
 - D) chloroplasts
12. Which type of **herbicide will kill all plants**:
- A) contact herbicide
 - B) selective herbicide
 - C) non-selective herbicide
 - D) broad-leaf pre-emergent herbicide

13. A rectangular planting bed measures 10 feet wide by 25 feet long. Use the "Spacing Chart", below, to determine **how many plants** will fit into the bed at an **8 inch spacing**:

Spacing Chart

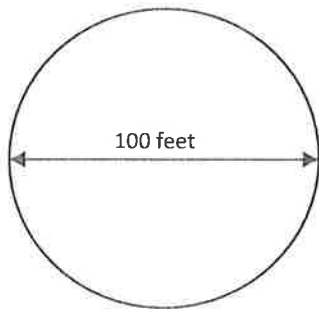
Inches between plants	Plants needed per		
	1 square foot	100 square feet	1000 square feet
3	16.000	1,600.0	16,000
4	9.000	900.0	9,000
5	5.750	575.0	5,750
6	4.000	400.0	4,000
7	2.930	293.0	2,930
8	2.250	225.0	2,250
9	1.780	178.0	1,780
10	1.440	144.0	1,440

- A) 8 plants
B) 250 plants
C) 562.5 plants
D) 111.11 plants
14. An **annual plant**:
- A) completes it's life-cycle in 2 years
B) produces seed in the first year
C) reproduces through stolons
D) has an indeterminate growth pattern

15. A fertilizer with an **18-6-12 analysis** contains:

- A) 18% phosphate (source of phosphorous **P**)
6% nitrogen **N**
12% potash (source of potassium **K**)
- B) 18% potash (source of potassium **K**)
6% phosphate (source of phosphorous **P**)
12% nitrogen **N**
- C) 18% nitrogen **N**
6% phosphate (source of phosphorous **P**)
12% potash (source of potassium **K**)
- D) 18% calcium **Ca**
6% iron **Fe**
12% magnesium **Mg**

16. How many **cubic yards** of mulch are needed to cover a circular planting bed, with a diameter of **100 ft, 3 inches** deep in mulch:



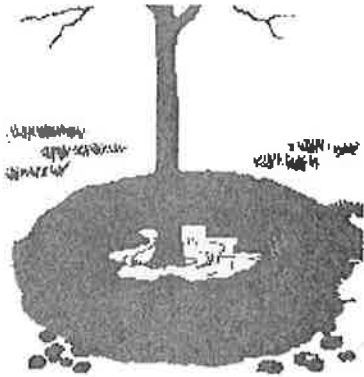
$$\text{Area of a circle} = \pi \times (\text{radius})^2$$

$$\pi = 3.1416$$

$$1 \text{ cubic yard} = 27 \text{ cubic feet}$$

- A) 72.72 cubic yards
- B) 46.54 cubic yards
- C) 290.88 cubic yards
- D) 1,963.5 cubic yards

17. The **main reason** a soil berm (see image below) is built around a newly planted tree is to:



- A) capture and retain water allowing more time for absorption
B) prevent water from reaching the tree
C) prevent soil erosion
D) hold mulch in place
18. **Respiration** is an important biochemical process occurring in plants that:
- A) converts glucose into energy (ATP)
B) occurs in cell structures called mitochondria
C) occurs only in the presence of light
D) both A and B above
19. Which of the following are **pathogens** capable of causing plant disease:
- A) fungi
B) excessive moisture
C) viruses
D) severe weather conditions
E) both A and C above

20. The **pruning technique** used to create a **formal hedge**, like the one shown below, is called:

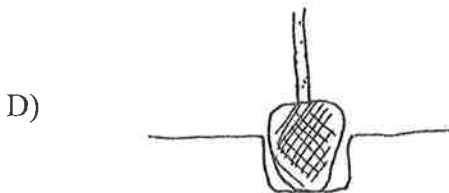
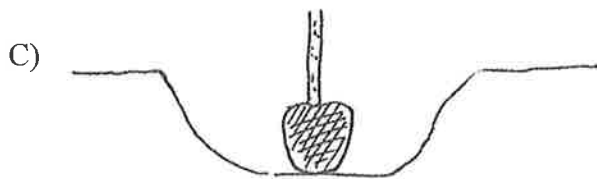
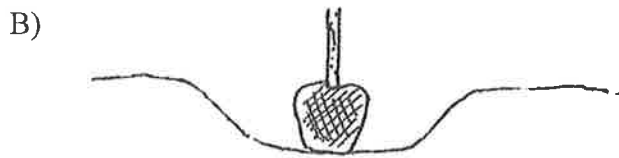
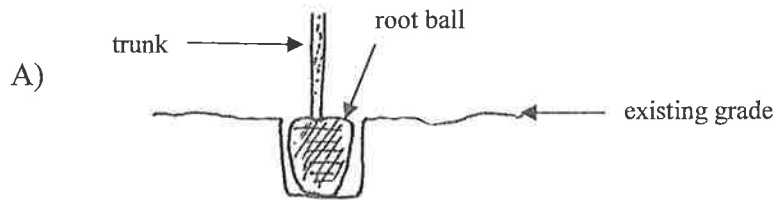


- A) thinning
 - B) heading back
 - C) pinching
 - D) shearing
21. Which part of the following scientific name is the **genus name**:

Gleditsia triacanthos inermis 'Skyline'

- A) 'Skyline'
 - B) *Gleditsia*
 - C) *triacanthos*
 - D) *inermis*
22. Which of the following is a **cultural practice** used to break through surface compaction and improve air and water infiltration in turfgrass:
- A) mowing
 - B) fertilization
 - C) irrigation
 - D) aeration
 - E) dethatching

23. You desire to plant a tree. Which of the following illustrates **proper planting hole width, depth, and tree placement**:



24. The **leaves** of plants that do not have enough _____ are **pale green or yellow** in color:

- A) Nitrogen (N)
- B) Phosphorous (P)
- C) Potassium (K)
- D) Iron (Fe)

25. Which of the following **soil particles** has the ability to hold the most water:

- A) sand
- B) silt
- C) clay
- D) perlite

RESCORE
 MARK
 TOTAL ONLY/BOTH SIDES

SCANTRON

Trans-Optic® EM-19641-4:13

- | | | | | | |
|----|-----|-----------------------|----|-----|---------------------|
| 1 | T F | (A) ● (C) (D) (E) (B) | 26 | T F | (A) (B) (C) (D) (E) |
| 2 | | (A) (B) (C) ● (E) (D) | 27 | | (A) (B) (C) (D) (E) |
| 3 | | (A) ● (C) (D) (E) (B) | 28 | | (A) (B) (C) (D) (E) |
| 4 | | (A) ● (C) (D) (E) (B) | 29 | | (A) (B) (C) (D) (E) |
| 5 | | (A) ● (C) (D) (E) (B) | 30 | | (A) (B) (C) (D) (E) |
| 6 | | (A) (B) ● (D) (E) (C) | 31 | | (A) (B) (C) (D) (E) |
| 7 | | (A) ● (C) (D) (E) (B) | 32 | | (A) (B) (C) (D) (E) |
| 8 | | (A) (B) ● (D) (E) (C) | 33 | | (A) (B) (C) (D) (E) |
| 9 | | (A) (B) ● (D) (E) (C) | 34 | | (A) (B) (C) (D) (E) |
| 10 | | ● (B) (C) (D) (E) (A) | 35 | | (A) (B) (C) (D) (E) |
| 11 | | (A) (B) (C) ● (E) (D) | 36 | | (A) (B) (C) (D) (E) |
| 12 | | (A) (B) ● (D) (E) (C) | 37 | | (A) (B) (C) (D) (E) |
| 13 | | (A) (B) ● (D) (E) (C) | 38 | | (A) (B) (C) (D) (E) |
| 14 | | (A) ● (C) (D) (E) (B) | 39 | | (A) (B) (C) (D) (E) |
| 15 | | (A) (B) ● (D) (E) (C) | 40 | | (A) (B) (C) (D) (E) |
| 16 | | ● (B) (C) (D) (E) (A) | 41 | | (A) (B) (C) (D) (E) |
| 17 | | ● (B) (C) (D) (E) (A) | 42 | | (A) (B) (C) (D) (E) |
| 18 | | (A) (B) (C) ● (E) (D) | 43 | | (A) (B) (C) (D) (E) |
| 19 | | (A) (B) (C) (D) ● (E) | 44 | | (A) (B) (C) (D) (E) |
| 20 | | (A) (B) (C) ● (E) (D) | 45 | | (A) (B) (C) (D) (E) |
| 21 | | (A) ● (C) (D) (E) (B) | 46 | | (A) (B) (C) (D) (E) |
| 22 | | (A) (B) (C) ● (E) (D) | 47 | | (A) (B) (C) (D) (E) |
| 23 | | (A) ● (C) (D) (E) (B) | 48 | | (A) (B) (C) (D) (E) |
| 24 | | ● (B) (C) (D) (E) (A) | 49 | | (A) (B) (C) (D) (E) |
| 25 | | (A) (B) ● (D) (E) (C) | 50 | | (A) (B) (C) (D) (E) |

KEY ITEM COUNT

0 2 5

0	0
1	1
2	2
3	3
4	4
5	●
6	6
7	7
8	8
9	9



STUDENT ID (UPON REQUEST)

0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

MARKING INSTRUCTIONS



Use a No. 2 Pencil

(A) ● (C) (D) (E)

Fill circle completely

(A) (B) (C) (D) (E)

Erase cleanly

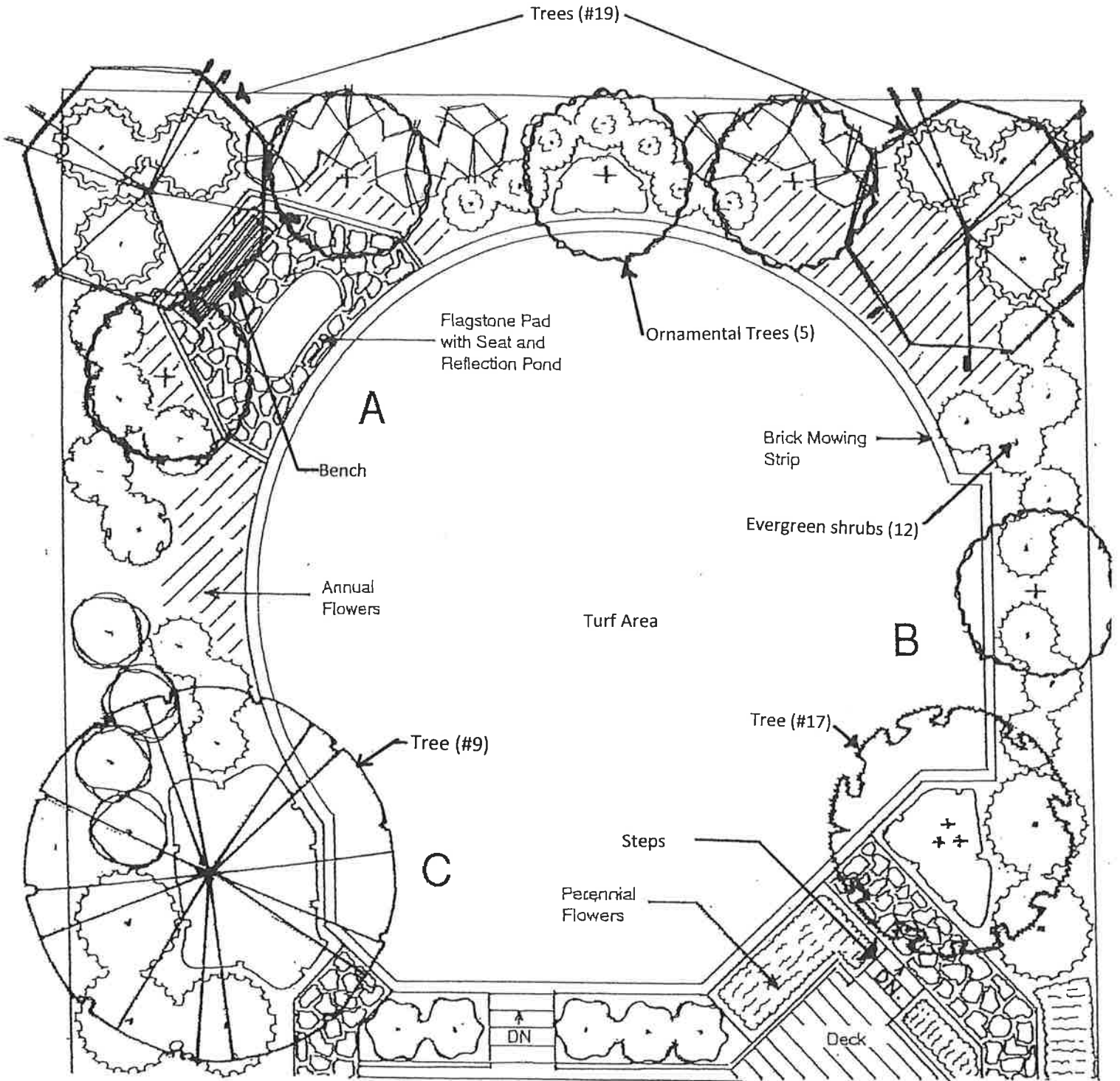
SCORE	25	# CORRECT
	100	% CORRECT
RESCORE		# CORRECT
		% CORRECT
ROSTER NUMBER		SCORE
		RESCORE

NAME 2014 FFA Land/Nucs.

SUBJECT General Knowledge Exam

PERIOD KEY DATE 6/10/2014

LANDSCAPE ESTIMATING PLAN #1



Scale: 1" = 10'



Iowa FFA Association
2014 Nursery/Landscape CDE
Landscape Estimation

This residential property was purchased by a retired couple that enjoys gardening. They love the idea of a large lawn area, but also welcome the opportunity to maintain plants. They see landscaping as an investment in the value of their home.

NOTE: In photocopying, the drawing is slightly compacted (about 1% or 0.1" for every 10"). It is appropriate to round your answer up when choosing your answers for measuring or math problems.

Mark all answers carefully on your scantron sheet.

1. If a line is 8 inches long on a drawing that is designated as having a 1" = 10' scale, then it represents a line _____ long in the landscape.

- A. 64 feet
- B. 80 feet
- C. 160 feet
- D. 200 feet

2. Based on the scale given for this plan, a measurement of 105 feet equals

- A. 12 ½ inches
- B. 6 ¼ inches
- C. 8 ½ inches
- D. 10 ½ inches

3. Based on the scale given for this plan, how wide are the steps down from the deck near the bottom right (SE corner) of the design? *(Use your scale to measure this)*

- A. 57 ½ feet
- B. 9 feet
- C. 15 feet
- D. 4 ½ feet

4. What is the length of the rear lot line (to the north)? *(Use your scale to measure this)*

- A. 73 feet
- B. 112 feet
- C. 120 feet
- D. 140 feet

5. If the deck has two levels measuring 27 feet by 10 feet, and 11 feet by 12 feet. What is the total area it covers?

- A. 37.5 square feet
- B. 600 square feet
- C. 1200 square feet
- D. 402 square feet

2014 Landscape Estimation

6. Instead of a deck, the homeowner wants a stone patio of the same square footage. How many stones will you need if you use a stone that measures 14 inches by 14 inches?

(It's fine to round up)

- A. 1230 stones
- B. 296 stones
- C. 2476 stones
- D. 442 stones

7. Your bill to the homeowner for the purchase and installation of the plant material in this plan was \$13,326. Your profit is 37% of that total. How much money will you make from this job?

- A. \$4,930.62
- B. \$9,500
- C. almost \$15,900
- D. exactly \$3600

8. There are 5 ornamental trees proposed for this plan. If they cost \$185 each, what will the cost be for these trees with a 6% sales tax?

- A. \$925.25
- B. \$ 980.50
- C. \$412.00
- D. \$632.50

9. Which of the following would **NOT** be an appropriate choice for the tree in area C if the desire is a vibrant fall color?

- A. *Amelanchier species*
- B. *Gingko biloba*
- C. *Pacysandra terminalis*
- D. *Acer fremanii*

10. You make a profit off the sale of the bench in Area A. Your wholesale cost was \$125 and you charged the client \$180 retail. What was your percent mark up?

- A. \$23.00
- B. 13%
- C. \$49.00
- D. 44%

$$\frac{125}{180} = \frac{x}{100}$$

11. The lawn area has a brick mowing edge installed around it totaling 150 linear feet. The 4x8in bricks will be laid end to end. You always plan to order an extra 10% for cutting waste. How many bricks should you get for the edging in this job? *(It's fine to round up)*

- A. 647 bricks
- B. 248 bricks
- C. 36 bricks
- D. 140 bricks

2014 Landscape Estimation

12. The water feature in area A will be a small reflection pond. If the finished size is to be 3 ½ feet wide by 8 feet long by 18 inches deep, what volume of soil needs to be excavated for the pond?

- A. 35 cubic feet
- B. 28 cubic feet
- C. 42 cubic feet
- D. 19 cubic feet

13. The planted areas to be mulched around the outside edges of this lawn measure approximately 2500 square feet. You will use shredded bark mulch applied in a layer 3 inches thick. How many cubic yards of mulch will you need for this design?

- A. 3.3 cubic yards
- B. 9.5 cubic yards
- C. 23.1 cubic yards
- D. 38 cubic yards

14. The total amount of flagstone used in this design equals 1890 square feet in surface area. You buy flagstone by the pallet of 500 square feet each. How many pallets do you need to buy?

(It's fine to round up)

- A. 23 pallets
- B. 13 pallets
- C. 4 pallets
- D. 225 pallets

15. You will sod the turf area. They total 2750 square feet. The two sources of sod listed below will cut to order the sod amount you want, and they have equivalent shipping charges.

Company A: sod in rolls = 15 inches by 12 feet long at \$2.30 per roll

Company B: sod in squares = 36 inches by 36 inches at \$1.50 per square

Which offers the lower cost for the sod you need?

- A. Company A
- B. Company B
- C. Both will cost the same
- D. There is not enough information given to compare the costs.

16. The three perennial flower beds near the deck measure about 105 square feet. Each needs organic matter added. You will provide this by mixing in a 4-inch-deep layer of peat moss. You obtain peat moss in bags that hold 6 cubic feet each. How many bags will you use? *(It's fine to round up)*

- A. 11 bags
- B. 16 ½ bags
- C. 22 bag
- D. 6 bags

2014 Landscape Estimation

17. Tree canopy (shadow) area is sometimes used to calculate fertilizer amounts. The large tree symbol in Area B (SE corner) has a canopy diameter of 17 feet. Assuming the canopy is round, what is the area of tree canopy? (πr^2 = the area of a circle)

- A. 907.46 square feet
- B. 500 square feet
- C. 300.56 square feet
- D. 226.86 square feet

18. You have a total of approximately 1000 square feet of annual plants scattered throughout this design. You planned to space the plants 12 inches on center, which will require 1000 plants. The owners asked you to space the plants 6 inches apart for a denser look. At the 6-inches on center spacing you will need _____ as many plants.

($144/x^2$ = plants per square foot) (x = on center spacing)

- A. Half
- B. Two times
- C. Four times
- D. Eight times

19. A tree that will provide light, filtered shade with its small leaves is the plant choice for the trees in the NW and NE corners of the lot. Which plant below would you choose for this characteristic?

- A. *Gleditsia tricanthos inermis*
- B. *Ajuga reptans cv.*
- C. *Picea pungens*
- D. *Quercus alba*

20. Your preferred nursery source for evergreens offers the following discount on 3 gallon container plants when you buy large quantities:

Plant Quantities

Number of plants purchased	1 – 5 = catalog price as indicated
	6 – 20 = less 10%
	21 or more = less 25%

For the 12 small evergreen shrubs on the West side in Area C and along the East side of the yard in Area B, you buy 3-gallon containers that list at \$42.00 each. What will be your cost after discounts for these plants?

- A. \$160.40
- B. \$395.00
- C. \$453.60
- D. \$129.60

Key

KEY

1. (B) $8'' * 10'/1'' = 80'$
2. (D) $105' / 10' = 10.5''$ or $10 * 10.5 = 105$ ft
3. (D) Measure with 10 scale = 4.5ft
4. (A) Measure with 10 scale = 73ft
5. (D) $27\text{ft} \times 10\text{ft} = 270$ Sq ft $11\text{ft} \times 12\text{ft} = 132$ sq ft $270+132= 402$ sq ft
6. (B) 402sqft of deck/patio area $14 \times 14\text{in}$ stone = 1.36sq ft $402/1.36= 295.6$ stones
7. (A) $\$13,326 * .37= \4930.62
8. (B) $\$185 * 5 = \$925 + 6\%$ ($\$55.50$ tax) = $\$980.50$
9. (C) Pachysandra terminalis is a groundcover
10. (D) whole(%) = part $\$180 - \$125 = \$55$ $125(x) = 55$ $55/125 = 44\%$
11. (B) $150 * 12 = 1800\text{in}/8 = 225 + 10\% = 247.5$ or 248 bricks
12. (C) $V = L \times W \times D = 3.5 * 8' * 1.5' = 42$ ft³
13. (C) $3' * 1'/12'' = 0.25'$ mulch layer $2500\text{ft}^2 * 0.25\text{ft} = 625\text{ft}^3 * 1\text{yd}^3/27\text{ft}^3$
14. (C) $1890/500 = 3.78$ round up to 4 pallets
15. (A) Company A: $15'' \times 12' = (15'' * 1'/12'') * 12' = 1.25' * 12' = 15\text{ft}^2/\text{roll}$
 $\$2.30/\text{roll} * \text{roll}/15\text{ft}^2 = \$0.153/\text{ft}^2$
 Company B: $36'' \times 36'' = 3' * 3' = 9\text{ft}^2/\text{square}$
 $\$1.50/\text{square} * \text{square}/9\text{ft}^2 = \$0.167/\text{ft}^2$
16. (D) $4'' * 1'/12'' = 0.33'$ $105\text{ft}^2 * 0.33\text{ft} = 34.65\text{ft}^3 * \text{bag}/6\text{ft}^3 = 6$ bags
17. (D) If $d=17'$ then $r=8.5'$ $\pi \times 8.5^2 = 226.86$ sq ft
18. (C) (1000sqft) Space/plant planned = $12'' \times 12'' = 1' \times 1' = 1\text{ft}^2/\text{plant}$
 $1000\text{ft}^2 * \text{plant}/\text{ft}^2 = 1000$ plants [as given]

 Plant spacing requested = 6 inches on center $6'' \times 6'' = .5' \times .5' = .25\text{ft}^2/\text{plant}$
 $1000\text{ft}^2 * \text{plant}/.25\text{ft}^2 = 4000$ plants = 4 times as many plants

2014 Landscape Estimation

19. (A) Honeylocust has small leaflets on lower density branches providing filtered shade. Ajuga is not a tree, it's a ground cover. White Oak has large leaves and denser shade. The Spruce is an evergreen tree and would create very dense shade.

20. (C) $\$42 * 12 \text{ shrubs} = \$504 - 10\% = \$453.60$

2014 Nursery/Landscape CDE

Iowa FFA Association

Assessment and Solutions Practicum

Put all answers on the provided scantron answer sheet

For questions 1-5, for each photo on the table, identify the correct chemical that would be used to treat the problem.

6. The chainsaw shown on the table is not ready for safe operation. What should be done to the saw to make it ready for safe operation?
 - a. Clean off debris
 - b. Sharpen the chain
 - c. Tighten the chain
 - d. Replace the air filter
 - e. None of the above

7. The mower blade on the table has just been removed from the mower and needs maintenance prior to re-installing it onto the mower. What maintenance is necessary to get it ready?
 - a. Blade sharpening
 - b. Blade balancing
 - c. Blade sharpening and balancing
 - d. Clean off debris and oil
 - e. None of the above

8. The container shown on the table needs to be filled with potting soil, how much soil will it hold?
 - a. <1 cubic foot
 - b. 1-2 cubic feet
 - c. 2-3 cubic feet
 - d. 3+ cubic feet
 - e. None of the above

9. How much will it cost to fertilize a $12,500 \text{ ft}^2$ lawn if the fertilizer costs $\$0.0175$ per square ft?
- $\$218.75$
 - $\$2187.50$
 - $\$21.87$
 - $\$21785.00$
 - $\$2.18$
10. Mr. Smith's backyard has a circular low spot with a radius of 25 ft. The average depth of the low spot is 8". How many yd^3 (cubic yards) of topsoil does he need to fill the low spot?
- 1.52 yd^3
 - 7.86 yd^3
 - 48.45 yd^3
 - 72.68 yd^3
 - 1962.5 yd^3
11. A flower bed measuring $23' \times 46'$ will be planted with annuals that are to be spaced on 12" centers (planted 12" apart). How many annuals are needed?
- 23
 - 46
 - 529
 - 1,058
 - 12
12. How many Interlocking Concrete Pavers are need to construct a driveway that measures 28' wide by 42' long. Each Concrete Paver measures 4" x 8". You need to order 10% extra pavers to account for breakage and cutting pavers during installation.
- 222
 - 1176
 - 4704
 - 5820
 - 10,000
13. Using the correct answer from #12, how much would it cost to buy the Interlocking Concrete Pavers for this driveway, if they cost $\$0.36$ each?
- $\$3,600.00$
 - $\$2095.20$
 - $\$1693.44$
 - $\$423.36$
 - $\$79.92$

14. A local landscaping company is installing and mulching 55 trees around a commercial business park. Each tree needs 4" of mulch and the circular area to be mulched has an 10' diameter. How many yd^3 (cubic yards) of mulch is needed?
- 25.6 yd^3
 - 59 yd^3
 - 2.5 yd^3
 - 5.3 yd^3
 - 53.3 yd^3
15. A small green house has 12 benches where it will be growing potted flowers. Each bench is 6' wide by 32' long. Each container is 12" by 12". Approximately, how many containers will fit on to the benches?
- 192
 - 5,200
 - 2,304
 - 32
 - 8,950
16. What is the area difference between the following: 1) a planting bed that is 7' by 9' or 2) a planting bed with a diameter of 9'?
- They are the same
 - The rectangle is larger by 1.585 square ft
 - The circle is larger by 0.585 square ft
 - The circle is larger by 6 square ft
 - None of the above
17. When doing a survey of a residential lawn, you find that from one side of the lawn to the house is 120ft. The elevation change is 26". What is the slope of the lawn?
- More than 26%
 - 13%
 - 26%
 - 1.81%
 - Less than 1%
18. How many pounds of phosphorous do you have in a 100 lb bag of fertilizer with an analysis of 32-0-18
- 32
 - .32
 - 0
 - 18
 - .18

19. The best time to prune/trim a lilac bush:

- a. Mid Summer
- b. Late Fall (just before cold weather)
- c. Spring after new growth has developed
- d. Late spring (after flowers have ceased)
- e. Anytime

20. How many pounds of fertilizer do you need to fertilize a 8,000 ft² at a rate of 1.0 lb of N per 1000 ft² using a fertilizer with an analysis of 23-0-0.

- a. 1.0 lbs
- b. 23.0 lbs
- c. 34.7 lbs
- d. 80 lbs
- e. 8,000 lbs

RESCORE MARK TOTAL ONLY/BOTH SIDES

SCANTRON

Trans-Optic® EM-19641-4:13

- | | | | | | |
|----|-----|-------------------------|----|-----|---------------------|
| 1 | T F | (A) (B) (C) (D) (E) (C) | 26 | T F | (A) (B) (C) (D) (E) |
| 2 | | (A) (B) (C) (D) (E) | 27 | | (A) (B) (C) (D) (E) |
| 3 | | (A) (B) (C) (D) (E) (D) | 28 | | (A) (B) (C) (D) (E) |
| 4 | | (A) (B) (C) (D) (E) (B) | 29 | | (A) (B) (C) (D) (E) |
| 5 | | (B) (C) (D) (E) (A) | 30 | | (A) (B) (C) (D) (E) |
| 6 | | (A) (B) (C) (D) (E) (C) | 31 | | (A) (B) (C) (D) (E) |
| 7 | | (A) (B) (C) (D) (E) (C) | 32 | | (A) (B) (C) (D) (E) |
| 8 | | (B) (C) (D) (E) (A) | 33 | | (A) (B) (C) (D) (E) |
| 9 | | (B) (C) (D) (E) (A) | 34 | | (A) (B) (C) (D) (E) |
| 10 | | (A) (B) (C) (D) (E) (C) | 35 | | (A) (B) (C) (D) (E) |
| 11 | | (A) (B) (C) (D) (E) (D) | 36 | | (A) (B) (C) (D) (E) |
| 12 | | (A) (B) (C) (D) (E) (D) | 37 | | (A) (B) (C) (D) (E) |
| 13 | | (A) (B) (C) (D) (E) (B) | 38 | | (A) (B) (C) (D) (E) |
| 14 | | (A) (B) (C) (D) (E) | 39 | | (A) (B) (C) (D) (E) |
| 15 | | (A) (B) (C) (D) (E) (C) | 40 | | (A) (B) (C) (D) (E) |
| 16 | | (A) (B) (C) (D) (E) (C) | 41 | | (A) (B) (C) (D) (E) |
| 17 | | (A) (B) (C) (D) (E) (D) | 42 | | (A) (B) (C) (D) (E) |
| 18 | | (A) (B) (C) (D) (E) (C) | 43 | | (A) (B) (C) (D) (E) |
| 19 | | (A) (B) (C) (D) (E) (D) | 44 | | (A) (B) (C) (D) (E) |
| 20 | | (A) (B) (C) (D) (E) (C) | 45 | | (A) (B) (C) (D) (E) |
| 21 | | (A) (B) (C) (D) (E) | 46 | | (A) (B) (C) (D) (E) |
| 22 | | (A) (B) (C) (D) (E) | 47 | | (A) (B) (C) (D) (E) |
| 23 | | (A) (B) (C) (D) (E) | 48 | | (A) (B) (C) (D) (E) |
| 24 | | (A) (B) (C) (D) (E) | 49 | | (A) (B) (C) (D) (E) |
| 25 | | (A) (B) (C) (D) (E) | 50 | | (A) (B) (C) (D) (E) |

KEY ITEM COUNT

0	1	2
3	4	5
6	7	8
9		



STUDENT ID (UPON REQUEST)

0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

MARKING INSTRUCTIONS



Use a No. 2 Pencil

(A) (B) (C) (D) (E)

Fill circle completely

(A) (B) (C) (D) (E)

Erase cleanly

SCORE	20	# CORRECT
	100	% CORRECT
RESCORE		# CORRECT
		% CORRECT
ROSTER NUMBER		SCORE
		RESCORE

NAME Assessment Solutions

SUBJECT _____

PERIOD _____ DATE _____

XYZ Landscaping
4567 Conifer Rd.
Cedar Rapids, IA 52404

Mr. Ray Edwards
1234 Evergreen Ln.
Cedar Rapids, IA 52406

June 10, 2014

Dear Mr. Edwards:

Thank you for contacting us about the trees planted by our company in the spring of 2013. We are sorry this problem occurred and would like to work with you to replace the trees as we appreciate your business.

Occasionally, plant material doesn't cooperate for various reasons. XYZ would like to send out one of our seasoned landscape technicians to evaluate the tree on site, in order to make sure that the trees are a proper selection for your yard. After reviewing their condition, the technician will explain possible causes and determine the best way to move forward.

While the 1-year warranty has expired, if it is determined that the trees are not able to be saved, XYZ will offer replacement trees at a 25% discount and there will be no-charge for installation.

A technician will be contacting you this week to schedule a site visit. We look forward to finding a solution and assisting you with your future landscaping needs.

Sincerely,

Jon Smith
Owner