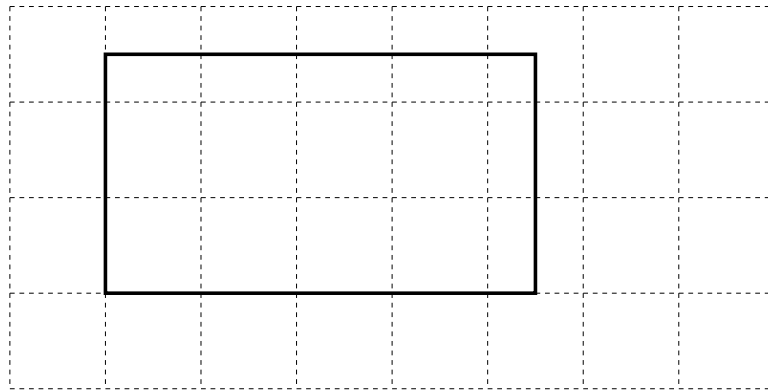


MA 202
Spring Semester 2004

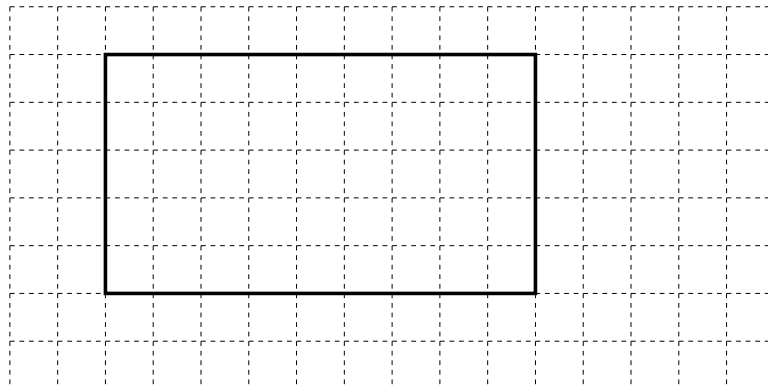
WARNING: You must **SHOW ALL OF YOUR WORK**. You will receive NO CREDIT if you do not show your work.

DUE: ????

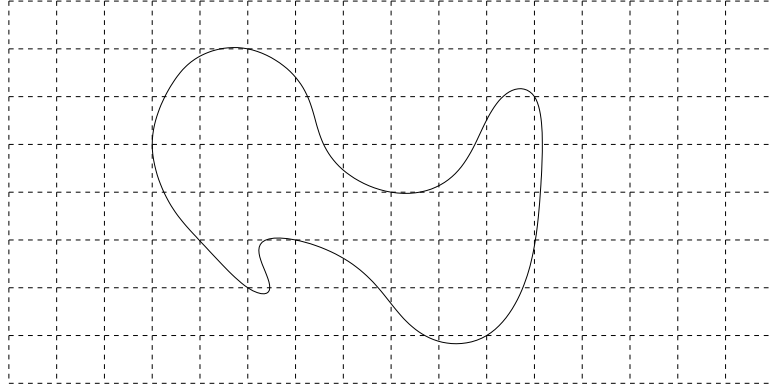
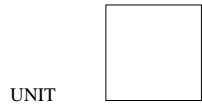
1. Approximate the area of the figure shown below.



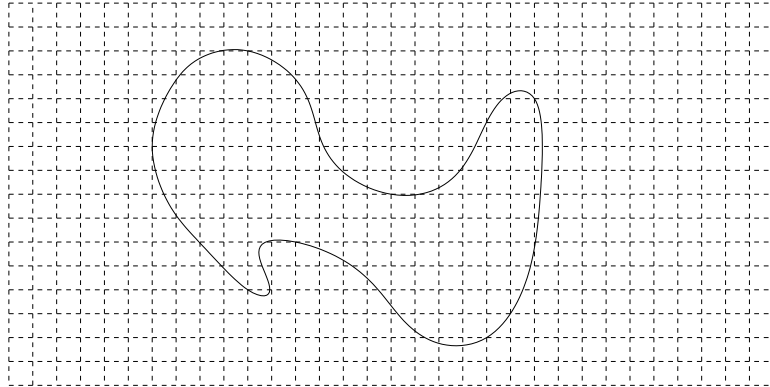
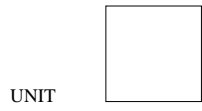
2. Approximate the area of the figure shown below.



5. Approximate the area of the figure shown below.



6. Approximate the area of the figure shown below.

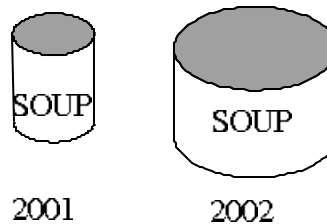


7. Do problems 4, 6, 7, 9, 10, 19 and 20 from section 12.1 of your textbook.
8. The following statements are incorrect. Reword each statement so that it is correct.
 - (a) The triangles angles are 180° .
 - (b) The angles around the center of the heptagon form a circle.
 - (c) $\angle 1 + \angle 2 = 180^\circ$.
 - (d) The angles are complementary so they are 180° .
 - (e) The mean is the middle value.
 - (f) The interior angles of the hexagon are 720°
9. Use triangles to determine the sum of the measures of the interior angles of a regular octagon. Be specific, not wordy.
10. Use triangles to determine the measure of each central angle of a regular octagon. Be specific, not wordy.
11. What is a transversal? Be specific, not wordy.
12. What is a rhombus? Be specific, not wordy.
13. What is a rectangle? Be specific, not wordy.
14. What is a square? Be specific, not wordy. Is a square a rhombus? Is a square a rectangle?
15. What is an angle? Be specific, not wordy.
16. What is the notation for the measure of angle A ?
17. What are supplementary angles? Be specific, not wordy.
18. What are complementary angles? Be specific, not wordy.
19. What are concurrent lines? Be specific, not wordy.
20. Explain how you would use money to evaluate $1.55 \div 5$.
21. Explain how you would use the area model to evaluate $\frac{4}{5} \times 1\frac{1}{2}$.
22. Convert the decimal $1.455555\dots$ to a fraction. Any variables you use must be defined.
23. Convert $6\frac{3}{4}$ to an improper fraction. Use colored regions to explain your answer.
24. Consider the set of test scores shown below

1	1	70	78
80	80	80	85
85	85	90	90

Would you say that the mean provides a good indication of a typical test score for this class? Briefly explain your answer.

25. Indiana license plates consist of a number followed by a letter and then another number. The first number represents the county; it is a number between 1 and 92 since there are only 92 counties. The letter can be any letter between A and Z. The second number is a four digit number. For example, 2 A 0548 is an Indiana license plate number. How many Indiana license plates can be created using this format?
26. CARFUS Soup Company doubled their earnings from 2001 to 2002. They used the following diagram in their company report to highlight this achievement.



Both cans are the same height, but the diameter of the can representing the 2002 earnings is twice as big as the diameter of the can representing the 2001 earnings. Does this diagram accurately represent the increase in earnings of the CARFUS Soup Company? If it is not an accurate representation, explain how you would change the representation to reflect the actual increase in earnings.

27. In the article “The World’s 10 Worst Dictators” (David Wallechinsky, *Parade* magazine, February 22, 2004), the author states that in Equatorial Guinea “the per capita income is \$4500 a year,” but “60% of the people live on less than \$1 a day.”
 - (a) What is the average yearly income in Equatorial Guinea?
 - (b) What can you say about the median yearly income in Equatorial Guinea?
 - (c) Why are the mean and the median so different for this problem?
 - (d) Which do you think is more representative of the yearly salary in Equatorial Guinea, the median or the mean?
 - (e) Speakers and writers often use statistics to persuade their audiences. Moreover, it is not uncommon for speakers and writers to report only one of the measures of central tendency. For example, a journalist might report only the mean while ignoring the mode and the median. How would you respond to a speaker or a writer who uses only the mean to support his or her view? Use this example to justify your response.

28. The Math Club has ten members.
- (a) In how many ways can all ten members line up for a picture?
 - (b) In how many ways can they choose a president, a vice president, and a secretary?
 - (c) In how many ways can they choose four members to represent their club at the Math Olympics?
29. For a certain weighted die, the probability of rolling a 6 is $\frac{1}{12}$. What are the odds in favor of rolling a 6 for this die?
30. Suppose that you are dealt two cards from an ordinary deck of playing cards.
- (a) If the dealer does not replace your first card before dealing you the second card, what is the probability that you are dealt two hearts?
 - (b) If the dealer does replace your first card before dealing you the second card, what is the probability that you are dealt two hearts?
 - (c) If the dealer does not replace your first card before dealing you the second card, what is the probability that your second card is a heart given that your first card was a heart?
 - (d) If the dealer does replace your first card before dealing you the second card, what is the probability that your second card is a heart given that your first card was a heart?
 - (e) Let A be the event that your first card is a heart. Let B be the event that your first card is an ace. Are events A and B mutually exclusive? Explain very briefly.