## Chapter 2 Practice Test
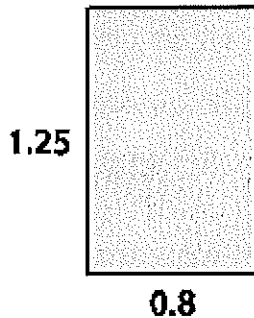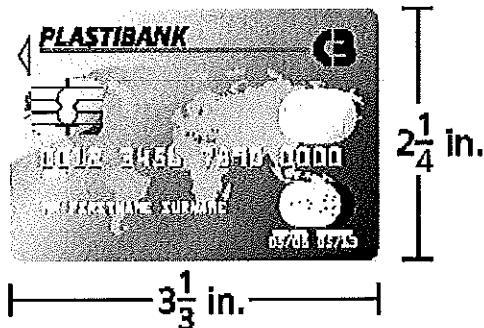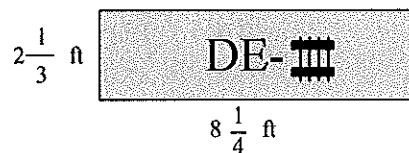
**Short Answer**

1. A rectangular pool is $30\frac{1}{3}$ feet long and $12\frac{1}{2}$ feet wide. What is the area of the pool?

2. In your marble collection, $\frac{4}{7}$ of the marbles are blue and $\frac{4}{21}$ of the marbles are red. How many times more blue marbles do you have than red marbles?

3. A $10\frac{2}{3}$-inch long pipe is cut into 8 equal length pieces. How long is each piece?
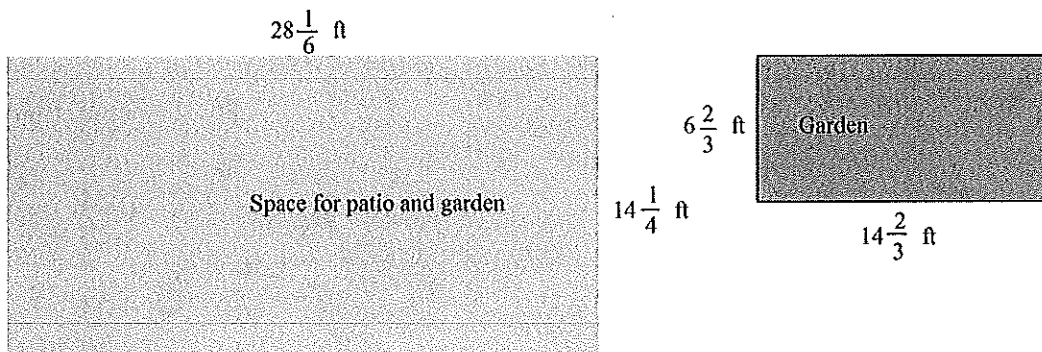
4. Find the area of the rectangle.

1.25

0.8

5. Your friend is 1.2 times taller than you. Your friend is 64.5 inches tall. How tall are you?

6. A professor wants to divide the remaining $\frac{3}{4}$ of the semester evenly into six different units.
   a. What fraction of the semester should be spent on each unit?
   b. The professor drops one unit. What fraction of the semester should be spent on each unit?

7. Find the area of the credit card.

PLASTIBANK

$2\frac{1}{4}$ in.

$3\frac{1}{3}$ in.

8. The family room in your house is $6\frac{1}{2}$ yards long and $5\frac{3}{4}$ yards wide.

   a. How many square feet do you need to carpet the room?
   b. Carpet costs $16 per square yard. How much will it cost to buy carpet for the family room?

9. You read a book for $\frac{5}{6}$ of an hour. You spend $\frac{3}{8}$ of that time reading the first chapter. What fraction of the hour do you spend reading the first chapter?

10. While shopping, you spend $\frac{4}{5}$ of your money and your cousin spends $\frac{3}{4}$ of her money. Is it possible that your cousin spent more? Explain your reasoning.

11. Write two mixed numbers between 2 and 3 that have a product between 6 and 9.

12. Your class makes a banner for a football game.



$2\frac{1}{3}$ ft

DE-Ⅲ

$8\frac{1}{4}$ ft

   a. What is the area of the banner?
   b. A $\frac{1}{4}$-foot border is added on each side. What is the new area of the banner?

13. You are going to make a cement patio with a garden in the space shown at the left. The dimensions of the garden are shown at the right.



$28\frac{1}{6}$ ft

Space for patio and garden

$14\frac{1}{4}$ ft

$6\frac{2}{3}$ ft   Garden

$14\frac{2}{3}$ ft

   a. Draw a diagram that shows your layout of the garden and patio.
   b. Describe two methods for finding the area of the cement patio.
   c. Find the area of the cement patio. Which method did you use, and why?

14. The whole number $a$ is the reciprocal of what fraction in simplest form? Explain how you found your answer. Then show that your answer is correct.

15. The table shows the fractions of the students in a school district that are in various grades.

| Grade Level | Fraction of the Students in the District |
|---|---|
| Pre-School | $\dfrac{1}{20}$ |
| K-5 | $\dfrac{2}{5}$ |
| 6-8 | $\dfrac{9}{40}$ |
| 9-12 | $\dfrac{13}{40}$ |

a. How many times as many students are in grades K-5 as in grades 6-8?

b. How many times as many students are in grades 9-12 as in Pre-School?

c. Of the students in the district, $\dfrac{1}{10}$ are in 6th grade. What fraction of the students in grades 6-8 are in 6th grade?

16. The fuel tank of your gas-powered scooter is $\dfrac{1}{8}$ full. After adding 90 fluid ounces of fuel, the tank is $\dfrac{3}{4}$ full.

a. How much fuel can the tank hold?

b. How much fuel was originally in the tank?

c. How much fuel is in the tank when it is $\dfrac{2}{3}$ full?

17. Christie makes bead necklaces using pieces of string from a roll that is $22\dfrac{1}{2}$ feet long. Each necklace is $1\dfrac{5}{6}$ feet long.

a. Estimate how many bracelets Christie can cut from the roll of string. Is your estimate reasonable? Explain.

b. How many bracelets can Christie cut from the roll of string? How much string is left over?

18. Write three decimals that have a sum of 27.386.

**Describe the pattern. Find the next three numbers.**

19. 13, 6.5, 3.25, 1.625, ...

20. How many decimal places are in the product of 0.096 and 24? Explain.

21. Is the product of 1.08 × 4 *greater than* or *less than* 4? Explain.

22. The weight of an object on Venus is about 0.91 of its weight on Earth. How much does a 198 pound astronaut weigh on Venus?

23. A bamboo plant grows about 3.9 feet each day. Find the growth in 9 weeks. Use an estimate to place the decimal point.

24. A human fingernail grows about 0.09 millimeters each day. How much does a fingernail grow in 90 days? 120 days?

25. If you know $15 \times 22 = 330$, how can you find $1.5 \times 2.2$?

26. Place the decimal point in the product.

$$\begin{array}{r} 4.69 \\ \times\ \ 0.85 \\ \hline 39865 \end{array}$$

27. Florida has about 3.31 million acres of cropland. North Carolina has about 1.7 times as much cropland as Florida. How much cropland does North Carolina have?

28. You buy 3.5 pounds of apples and 5.973 pounds of peaches. Today apples cost $1.63 per pound and peaches cost $1.57 per pound. You hand the cashier a $20 bill. How much change will you get back?

29. A car can travel 23.58 miles on one gallon of gasoline.
    a. How far can the car travel on 15.3 gallons of gasoline?
    b. A hybrid car can travel 38.2 miles on one gallon of gasoline. How much farther can the hybrid car travel on 15.3 gallons of gasoline?

30. You use 34 buckets of plastic balls to bury your friend at Fun Galaxy. Your bucket holds 9.5 pounds of plastic balls. Estimate how many pounds of plastic balls you use. Is your estimation *too little* or *too much*?

31. Which number is the quotient? dividend? divisor?

$$2\overline{\smash{)}10.2}^{\,5.1}$$

32. You send 85 text messages in one month. The total cost is $5.10. How much does each text message cost?

33. A 4-ounce bottle of suntan lotion costs $7.00. A 5-ounce bottle costs $9.35. Which is the better buy? Explain.

34. Tickets to the school musical cost $6.08 per ticket. The amount received from ticket sales is $2492.80. How many tickets were sold?

35. A person's running stride is about 0.27 times his or her height. Your friend's running stride is 1.16 feet. How tall is your friend?

36. You have 9.24 gigabytes available on your MP3 player. Each song is about 0.022 gigabyte. How many songs can you download onto your MP3 player?

37. You buy four pairs of jeans for $35.95 each and get a fifth pair for free. What is your cost per pair of jeans?

# Chapter 2 Practice Test
## Answer Section

**SHORT ANSWER**

1. ANS:
   $379\frac{1}{6}$ ft$^2$

   PTS: 1
2. ANS:
   3 times more

   PTS: 1
3. ANS:
   $1\frac{1}{3}$ in.

   PTS: 1
4. ANS:
   1 unit$^2$

   PTS: 1
5. ANS:
   53.75 in.

   PTS: 1
6. ANS:
   a. $\frac{1}{8}$

   b. $\frac{3}{20}$

   PTS: 1
7. ANS:
   $7\frac{1}{2}$ in.$^2$

   PTS: 1
8. ANS:
   a. $37\frac{3}{8}$ yd$^2$
   b. $598

   PTS: 1

9. ANS:

$\dfrac{5}{16}$ h

PTS: 1

10. ANS:

yes; If your cousin has more money than you, it is possible that $\dfrac{3}{4}$ of her money is greater than $\dfrac{4}{5}$ of your money.

PTS: 1

11. ANS:

*Sample answer:* $2\dfrac{3}{4}$, $2\dfrac{4}{5}$
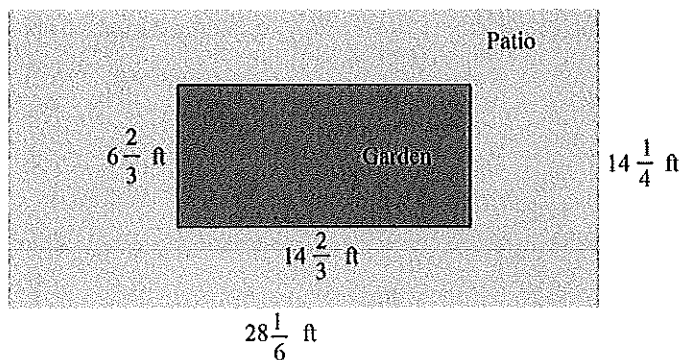
PTS: 1

12. ANS:

a. $19\dfrac{1}{4}$ ft²

b. $24\dfrac{19}{24}$ ft²

PTS: 1

13. ANS:

a. *Sample answer:*



b. Method 1: Find the area of each rectangle. Then subtract the area of the smaller rectangle from the area of the larger rectangle.
Method 2: Convert the measures in feet to measures in inches first. Then follow the same procedure as in Method 1. Finally, divide the answer by 144 to convert from square inches to square feet.

c. $303\dfrac{43}{72}$ ft²; *Sample answer:* Method 2, because the calculations are easier with whole numbers than with fractions.

PTS: 1

14. ANS:

$\frac{1}{a}$; The whole number $a$ can be written as $\frac{a}{1}$. Invert this fraction to find the reciprocal $\frac{1}{a}$.

Show that the product is 1: $a \cdot \frac{1}{a} = \frac{a}{1} \cdot \frac{1}{a}$

$= 1$

PTS: 1

15. ANS:

a. $1\frac{7}{9}$ times

b. $6\frac{1}{2}$ times

c. $\frac{4}{9}$

PTS: 1

16. ANS:
   a. 144 fl oz
   b. 18 fl oz
   c. 96 fl oz

PTS: 1

17. ANS:

a. *Sample answer*: 11 necklaces; The answer is reasonable because $22\frac{1}{2}$ was rounded down to 22 and $1\frac{5}{6}$ was rounded up to 2.

b. 12 necklaces; $\frac{1}{2}$ foot left over

PTS: 1

18. ANS:
*Sample answer*: 10.46, 7.31, 9.616

PTS: 1

19. ANS:
Each number is 0.5 times the previous number; 0.8125, 0.40625, 0.203125

PTS: 1

20. ANS:
3; The decimal factor has 3 decimal places.

PTS: 1

21. ANS:
greater than 4; Because 4 is being multiplied by a number greater than 1.

PTS: 1

22. ANS:
180.18 lb

PTS: 1
23. ANS:
245.7 ft

PTS: 1
24. ANS:
8.1 mm; 10.8 mm

PTS: 1
25. ANS:
Place the decimal point so that there are two decimal places.
$1.5 \times 2.2 = 3.3$

PTS: 1
26. ANS:
3.9865

PTS: 1
27. ANS:
5.627 million acres

PTS: 1
28. ANS:
$4.92

PTS: 1
29. ANS:
a. 360.774 mi
b. 223.686 mi

PTS: 1
30. ANS:
*Sample answer*: 350 lb; too much

PTS: 1
31. ANS:
5.1; 10.2; 2

PTS: 1
32. ANS:
$0.06

PTS: 1

33. ANS:
    the 4-ounce bottle; The price per ounce is $1.75 for the 4-ounce bottle and $1.87 for the 5-ounce bottle.

    PTS: 1
34. ANS:
    410 tickets

    PTS: 1
35. ANS:
    4.3 ft

    PTS: 1
36. ANS:
    420 songs

    PTS: 1
37. ANS:
    $28.76

    PTS: 1