KEY KEY KEY KEY KEY KEY

MODULE B

Topic: **FACTORS and MULTIPLES**

1. List all factors of 12.

   1, 2, 3, 4, 6, 12

2. Find the prime factorization of 12.

   $2 \cdot 2 \cdot 3$

3. List all factors of 63.

   1, 3, 7, 9, 21, 63

4. Find the prime factorization of 63.

   $3 \cdot 3 \cdot 7$

5. List all factors of 80

   1,2,4,5,8,10,16,20,40,80

6. Find the prime factorization of 80.

   $2 \cdot 2 \cdot 2 \cdot 2 \cdot 5$

7. List 4 multiples of 10: *10, 20, 30, 40*

8. List 4 multiples of 21: *21, 42, 63, 84*

9. List 4 multiples of 16: *16, 32, 48, 64*

Circle the correct response:

10. FACTORS of a number are [less than or equal / greater than or equal] to the number.

11. Multiples of a number are [less than or equal / greather than or equal] to the number.

12. Find the GCF of 18 and 27. *9*

13. Find the LCM of 18 and 27. *54*

14. Find the GCF of 20 and 75. *5*

15. Find the LCM of 20 and 75. *300*

KEY KEY KEY KEY KEY KEY

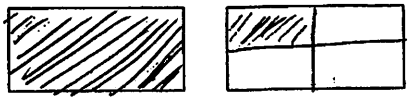
FRACTION BASICS: FIGURES, NUMBER LINES, SIMPLIFYING

Use rectangles to sketch a diagram showing the following:

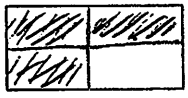
1. $\frac{3}{5}$ 

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

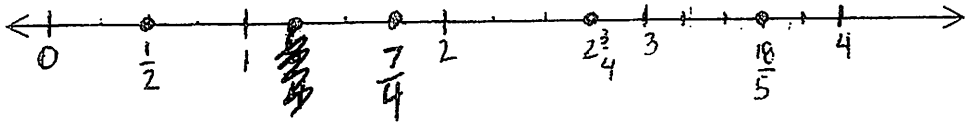
3. $\frac{5}{3}$ 

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

5. $\frac{10}{7}$ 

6. $\frac{3}{4}$ 

7. Plot the following on a number line: $\left\{\frac{1}{2}, 2\frac{3}{4}, \frac{7}{4}, 1, \frac{18}{5}\right\}$



8. Fill in the table:

Improper Fraction	Mixed Number
$\frac{12}{7}$	$1\frac{5}{7}$
$\frac{71}{7}$	$10\frac{1}{7}$
$\frac{124}{13}$	$9\frac{7}{13}$
$\frac{95}{17}$	$5\frac{10}{17}$

KEY KEY KEY KEY KEY KEY

(#9 - #12) **Simplify** each of the following completely:

9. $\frac{12}{18}$ $\frac{2}{3}$

10. $\frac{14}{49}$ $\frac{2}{7}$

11. $3\frac{12}{36}$ $3\frac{1}{3}$

12. $4\frac{42}{105}$ $4\frac{2}{5}$

13. Write $\frac{3}{5}$ as an equivalent fraction with a denominator of 45. $\frac{27}{45}$

14. Write $\frac{8}{9}$ as an equivalent fraction with a denominator of 108. $\frac{96}{108}$

15. Insert < or >: $\frac{5}{9}$ [<] $\frac{8}{13}$ Hint: Convert to same denominator

16. Insert < or >: $\frac{10}{17}$ [<] $\frac{2}{3}$

KEY KEY KEY KEY KEY KEY

MODULE B

Topic: **OPERATIONS WITH FRACTIONS**

1. $\frac{2}{3} \cdot \frac{5}{14} = \boxed{\frac{5}{21}}$

2. $\frac{5}{8} - \frac{1}{3} = \boxed{\frac{7}{24}}$

3. $5 \div \frac{7}{8} = \boxed{5\frac{5}{7}}$ $\frac{40}{7}$

4. $1\frac{1}{4} + 2\frac{2}{3} = \boxed{3\frac{11}{12}}$ $\frac{47}{12}$

5. $\left(2\frac{1}{9}\right)\left(1\frac{1}{2}\right) = \boxed{3\frac{1}{6}}$ $\frac{19}{6}$

6. $6 - \frac{2}{3} + 1\frac{1}{4} = \boxed{6\frac{7}{12}}$ $\frac{79}{12}$

7. $\frac{3}{4} \cdot \left(1\frac{2}{3}\right) \div \frac{5}{14} = \boxed{3\frac{1}{2}}$ $\frac{7}{2}$

8. $9\frac{2}{5} \div 1\frac{3}{10} = \boxed{7\frac{3}{13}}$ $\frac{94}{13}$

9. $\left(2\frac{1}{2}\right)\left(\frac{1}{3} + \frac{3}{5}\right) = \boxed{2\frac{1}{3}}$ $\frac{7}{3}$

10. $\frac{7}{8} + \frac{2}{3} \div 4 = \boxed{1\frac{1}{24}}$ $\frac{25}{24}$

KEY KEY KEY KEY KEY KEY

11. Find $\frac{2}{3}$ of $4\frac{1}{2}$ $\boxed{3}$

12. $\left(2\frac{1}{3}\right)\left(1\frac{1}{4}\div\frac{1}{5}\right)=\boxed{14\frac{7}{12}}$ $\frac{175}{12}$

13. $10-\frac{1}{3}\cdot 9=\boxed{7}$

14. $3+2\left(4\frac{1}{3}\right)=\boxed{11\frac{2}{3}}$ $\frac{35}{3}$

15. ESTIMATE $1\frac{4}{5}+3\frac{1}{8}-\frac{9}{10}$

$\boxed{\approx 4}$

16. ESTIMATE $\left(\frac{1}{12}+5\frac{21}{23}\right)\left(3\frac{7}{9}\right)$

$\boxed{\approx 24}$

17. A lumberyard has a stack of 90 blocks of wood. Each block is $1\frac{1}{4}$ inches think. How many inches tall is the stack of blocks?

$\boxed{112\frac{1}{2}\textit{ inches tall}}$ $\frac{225}{2}$ in

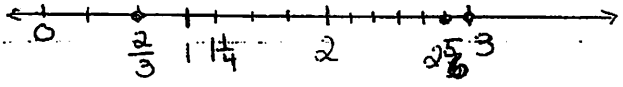
18. Recent information shows that half of all math majors are women. Of these women, three-fifths plan to enter a career in computer science. What fraction of ALL math majors are women planning a career in computer science?

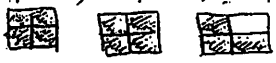
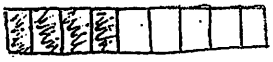
$\boxed{\frac{3}{10}}$

19. In a recent survey, 15 people owned cats, 24 people owned dogs and 10 people had no pets. What fraction of those surveyed owned dogs? What fraction had no pets?

$\boxed{\frac{24}{49}}$ $\boxed{\frac{10}{49}}$

Module B Cumulative Review

1. $2\frac{1}{4}$ or $\frac{9}{4}$
2. $2 \cdot 2 \cdot 2 \cdot 3 \cdot 3$
3. 90
4. $\frac{95}{9}$
5. 

6. 1, 2, 4, 7, 14, 28
7. $\frac{2}{5}$
8. $\frac{3}{5}$
9. $\frac{20}{84}$
10. $3\frac{7}{8}$
11. 12, 24, 36, 48, 60, 72
12. 
13. 
14. 7
15. $\frac{19}{20}$
16. $11\frac{1}{2}$ or $\frac{23}{2}$
17. $27\frac{3}{5}$ or $\frac{138}{5}$
18. $2\frac{1}{4}$ or $\frac{9}{4}$
19. $1\frac{5}{8}$ or $\frac{13}{8}$ in.
20. $\frac{15}{35} = \frac{3}{7}$
21. undefined
22. $2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 = 2^7$
23. 4
24. 140
25. $13\frac{1}{8}$
26. $\frac{127}{7}$
27. $\frac{7}{16}$
28. $16\frac{2}{3}$ or $\frac{50}{3}$
29. 66
30. 5
31. 92 R 12
32. 11,228
33. 9,018
34. 5,100
35. 5,000
36. 5,000
37. 53
38. 5
39. 100,000 + 20,000 + 300 + 60 + 5
40. one hundred twenty thousand, three hundred sixty-five