

Circled problems  $\Rightarrow$  B<sub>1</sub> questions

Other problems  $\Rightarrow$  B<sub>2</sub> questions

MODULE B

Topic: FACTORS and MULTIPLES

1. List all factors of 12.      2. Find the prime factorization of 12.

3. List all factors of 63.      4. Find the prime factorization of 63.

5. List all factors of 80      6. Find the prime factorization of 80.

7. List 4 multiples of 10:

8. List 4 multiples of 21:

9. List 4 multiples of 16:

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  greater than or equal to the number.

12. Find the GCF of 18 and 27.

13. Find the LCM of 18 and 27.

14. Find the GCF of 20 and 75.

15. Find the LCM of 20 and 75.

ALL B<sub>1</sub>

MODULE B

Topic: 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
$\frac{12}{7}$	
	$10\frac{1}{7}$
$\frac{124}{13}$	
	$5\frac{10}{17}$

14. ESTIMATE the sum of  $1\frac{10}{11}$ ,  $4\frac{1}{7}$ , and  $\frac{20}{23}$ .

15.  $\frac{4}{5} + \left(\frac{3}{8}\right)\left(\frac{2}{5}\right)$

16.  $12 - \frac{5}{6} \div \left(1 + \frac{2}{3}\right)$

17.  $18 \cdot \left(2\frac{1}{5} - \frac{2}{3}\right)$

18.  $4 \cdot \left(\frac{3}{4}\right)^2$

19. Susie can run  $3\frac{1}{2}$  miles before needing to stop and rest. Javier can run  $5\frac{1}{8}$  miles before he needs to stop and rest. How much farther can Javier run than Susie?

20. In a class of 35 students, 20 have brown hair. What fraction of students do not have brown hair?

21.  $2 + \frac{2}{5} \div 0$

22. Find the prime factorization of 128

23. Find the GCF of 20 and 28.

24. Find the LCM of 20 and 28.

25. Convert  $\frac{210}{16}$  to a mixed number. Simplify.

26. Convert  $18\frac{1}{7}$  to an improper fraction.

27. Which is the smallest:  $\frac{1}{2}$ ,  $\frac{7}{16}$ ,  $\frac{11}{24}$ , or  $\frac{2}{3}$ ?

28.  $3 \cdot \left(8\frac{1}{9} - 2\frac{5}{9}\right)$

29. Find the LCM of 11 and 6.

30. Find the GCF of 25 and 30.

MODULE A REVIEW

31. Divide 1,392 by 15.

32. Multiply 14 by 802.

33. Find the difference of 10,302 and 1,284

34. Round 5092 to the nearest hundred.

35. Round 5092 to the nearest thousand.

36. Estimate the sum of 918, 1461, 2782, and 105 by rounding to the nearest thousand.

37. Evaluate  $3 + 5^2 \cdot 4 \div 2$

38. Evaluate  $9 - \left(4 - \frac{6}{3}\right)^2$

39. Write in expanded form: 120,365

40. Write in words: 120,365.

ALL B, ↓

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

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

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

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

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

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

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

15. Insert < or >:  $\frac{5}{9}$     $\frac{8}{13}$

Hint: Convert to same denominator

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

MODULE B  
Topic: OPERATIONS WITH FRACTIONS

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

2.  $\frac{5}{8} - \frac{1}{3}$

3.  $5 \div \frac{7}{8}$

4.  $1\frac{1}{4} + 2\frac{2}{3}$

5.  $\left(2\frac{1}{9}\right)\left(1\frac{1}{2}\right)$

6.  $6 - \frac{2}{3} + 1\frac{1}{4}$

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

8.  $9\frac{2}{5} \div 1\frac{3}{10}$

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

10.  $\frac{7}{8} + \frac{2}{3} \div 4$

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

12.  $\left(2\frac{1}{3}\right)\left(1\frac{1}{4} + \frac{1}{5}\right)$

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

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

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

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

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

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?

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?

**MODULE B**  
**CUMULATIVE REVIEW**

Complete the following problems on a separate sheet of paper. Check your answers against the answer sheet.

1. Add  $1\frac{7}{12} + \frac{2}{3}$

2. What is the prime factorization of 72?

3. What is the LCM of 18 and 30?

4. Convert  $10\frac{5}{9}$  to an improper fraction.

5. Place the following on a number line:  $\left\{\frac{2}{3}, 1\frac{1}{4}, 2\frac{5}{6}, 3\right\}$

6. List all factors of 28

7. Which is larger  $\frac{4}{11}$  or  $\frac{2}{5}$ ?

8. Divide  $4\frac{1}{5}$  by 7.

9. Write  $\frac{5}{21}$  as an equivalent fraction with a denominator of 84.

10.  $5\frac{1}{2} - 1\frac{5}{8}$

11. List the first six multiples of 12:

12. Draw a picture (use rectangles or circles) that represents  $2\frac{3}{4}$ .

13. Draw a picture (use rectangles or circles) that represents  $\frac{4}{9}$ .



14. ESTIMATE the sum of  $1\frac{10}{11}$ ,  $4\frac{1}{7}$ , and  $\frac{20}{23}$ .

15.  $\frac{4}{5} + \left(\frac{3}{8}\right)\left(\frac{2}{5}\right)$

16.  $12 - \frac{5}{6} \div \left(1 + \frac{2}{3}\right)$

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