

Name _____ Date _____ Class _____

Skill: Factors, Multiples, and Primes**Investigation 1****Prime Time****List all the factors of each number.**

1. 12

2. 45

3. 41

4. 54

5. 48

6. 100

7. 117

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Skill: Factors, Multiples, and Primes *(continued)***Investigation 1****Prime Time****Tell whether the second number is a multiple of the first.**

8. 2; 71

9. 1; 18

10. 3; 81

11. 4; 74

12. 9; 522

13. 8; 508

14. 13; 179

15. 17; 3,587

Tell whether each number is prime or composite.

16. 53

17. 86

18. 95

19. 17

20. 24

21. 27

22. 31

23. 51

24. 103

25. 47

26. 93

27. 56

28. Make a list of all the prime numbers from 50 through 75.

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Skill: Least Common Multiple**Investigation 3****Prime Time****List multiples to find the LCM of each set of numbers.**

1. 5, 10

2. 2, 3

3. 6, 8

4. 4, 6

5. 8, 10

6. 5, 6

7. 12, 15

8. 8, 12

9. 9, 15

10. 6, 15

11. 6, 9

12. 6, 18

13. 3, 5

14. 4, 5

15. 9, 21

16. 7, 28

17. One radio station broadcasts a weather forecast every 18 minutes and another station broadcasts a commercial every 15 minutes. If the stations broadcast both a weather forecast and a commercial at noon, when is the next time that both will be broadcast at the same time?

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Skill: Greatest Common Factor**Investigation 3****Prime Time****List the factors to find the GCF of each set of numbers.**

1. 8, 12

2. 18, 27

3. 15, 23

4. 17, 34

5. 24, 12

6. 18, 24

7. 5, 25

8. 20, 25

9. 10, 15

10. 25, 75

11. 14, 21

12. 18, 57

13. 32, 24, 40

14. 25, 60, 75

15. 12, 35, 15

16. 15, 35, 20

17. Cameron is making bead necklaces. He has 90 green beads and 108 blue beads. What is the greatest number of identical necklaces he can make if he wants to use all of the beads?

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Additional Practice

Investigation 2

Bits and Pieces I

1. For each pair of fractions, insert a less-than symbol (<), greater-than symbol (>), or an equals symbol (=) between the fractions to make the true statement.

a. $\frac{1}{2}$ $\frac{5}{10}$

b. $\frac{1}{3}$ $\frac{2}{5}$

c. $\frac{5}{12}$ $\frac{1}{3}$

d. $\frac{4}{5}$ $\frac{2}{3}$

e. $\frac{3}{4}$ $\frac{8}{10}$

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

2. a. For each pair of fractions, insert a less-than symbol (<), greater-than symbol (>), or an equals symbol (=) between the fractions to make the true statement.

i. $\frac{2}{3}$ $\frac{2}{5}$

ii. $\frac{4}{6}$ $\frac{4}{5}$

iii. $\frac{3}{4}$ $\frac{3}{8}$

b. Describe a way to compare two fractions when the numerators are the same.

3. a. For each pair of fractions, insert a less-than symbol (<), greater-than symbol (>), or an equals symbol (=) between the fractions to make the true statement.

i. $\frac{2}{5}$ $\frac{4}{5}$

ii. $\frac{4}{9}$ $\frac{7}{9}$

iii. $\frac{5}{11}$ $\frac{3}{11}$

b. Describe a way to compare two fractions when the denominators are the same.

4. For each group of fractions, rewrite the fractions in order from least to greatest.

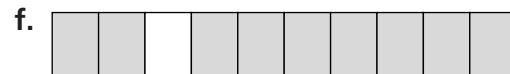
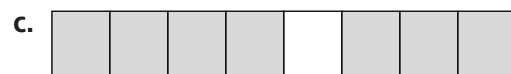
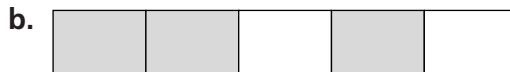
a. $\frac{2}{3}, \frac{1}{2}, \frac{3}{4}, \frac{2}{6}$

b. $\frac{24}{4}, \frac{1}{4}, \frac{11}{16}, \frac{1}{7}$

c. $\frac{1}{2}, \frac{1}{5}, \frac{1}{3}, \frac{1}{9}, \frac{1}{6}$

d. $\frac{11}{16}, \frac{3}{4}, \frac{3}{8}, \frac{1}{2}, \frac{3}{16}$

5. For each of the six fraction strips below, write *two* fractions that express the portion of the strip that is shaded.



6. Find a fraction between each pair of fractions given.

a. $\frac{4}{7}$ and $\frac{5}{7}$

b. $\frac{1}{3}$ and $\frac{1}{4}$

c. $\frac{1}{8}$ and $\frac{2}{8}$

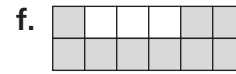
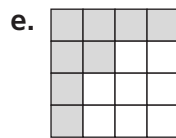
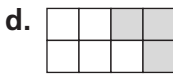
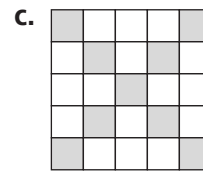
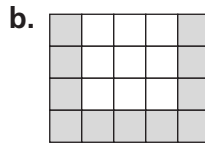
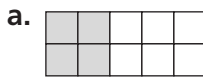
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Additional Practice

Investigation 4

Bits and Pieces I

1. For each of the grids given below, express the shaded region of the grid as a fraction, a decimal, and a percent.



2. Angie and Jim conducted a survey of their sixth-grade classmates in their mathematics class. They found out the following information:

- 70% of the students in the class do homework three or more nights each week.
- Of the students who do homework three or more nights each week, half do homework five nights each week.

- a. What percentage of the students in the class do homework two nights or less each week? Explain your reasoning.
- b. What fraction of the students in the class do homework five nights each week? Explain your reasoning.
- c. What percentage of students in the class do homework three or four nights a week? Explain your reasoning.
- d. From the information provided, can you tell how many students are in the class? Explain why or why not.

3. In a class of 24 sixth-graders, 25% walk to school, $\frac{1}{8}$ ride bicycles to school, $\frac{1}{3}$ take the bus to school, and the remainder of the class are driven to school by their parents or guardians.

- a. How many students in the class walk to school? Explain your reasoning.
- b. How many students in the class ride bicycles to school? Explain your reasoning.
- c. How many students in the class take the bus to school?
- d. What fraction of the class are driven to school by their parent or guardian? Explain your reasoning.
- e. What percentage of the students in the class walk, ride bicycles or the bus, or are driven to at school by a parent or guardian? Explain your reasoning.

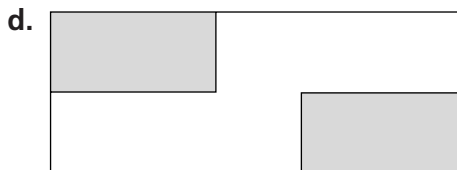
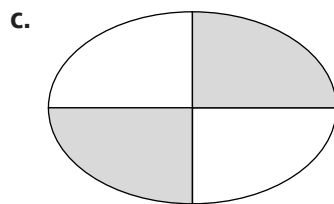
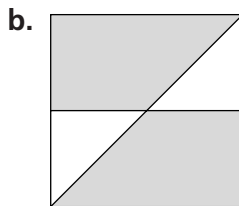
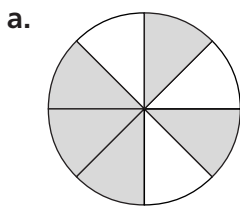
Name _____ Date _____ Class _____

Additional Practice *(continued)*

Investigation 4

Bits and Pieces I

4. Express the shaded region of each drawing as a fraction, a decimal, and as a percent.



5. In one competition, the archery team had to shoot at targets from three different distances: 10 m, 20 m, and 30 m. The number of hits and the number of shots for each distance are given below. Write their score for each round as a fraction, a decimal, and a percent.

a. at 10 m: 42 hits out of 50 shots

b. at 20 m: 37 hits out of 50 shots

c. at 30 m: 18 hits out of 50 shots

6. Fill in the missing parts of the table.

Fraction	Decimal	Percent
$\frac{3}{8}$		
	0.88	
		35%
$1\frac{1}{4}$		
	0.625	
		275%

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Additional Practice**Investigation 2****Bits and Pieces II**

1. Jack and Helen are making cookies. The recipe says to combine $\frac{1}{2}$ cup of butter with $\frac{3}{4}$ cup chocolate chips and $\frac{3}{8}$ cup chopped nuts.
 - a. When these three ingredients are mixed together, how many cups of the mixture will Jack and Helen have? Show your work.

 - b. Jack and Helen decide to triple the recipe.
 - i. How many cups of butter will be needed?

 - ii. How many cups of chocolate chips will be needed?

 - iii. How many cups of chopped nuts will be needed?

 - c. When the ingredients for the tripled recipe are combined, how many cups of the mixture will Jack and Helen have?

2. Mr. Larson is planning the seating for a school recital. He needs to reserve $\frac{1}{3}$ of the seats for students and $\frac{1}{6}$ of the seats for parents.
 - a. After reserving seats for students and parents, what fraction of the seats in the auditorium are left?

 - b. Mr. Larson's principal tells him that he also needs to reserve $\frac{1}{8}$ of the seats for teachers and school officials. The remainder can be used for open seating. What fraction of the seats are now left for open seating?

 - c. Later, Mr. Larson's principal says he should reserve $\frac{1}{4}$ of the seats for students from other middle schools. Are there enough seats left? If not, explain why not; otherwise, state what fraction of the seats will be available for open seating.

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Additional Practice

Investigation 3

Bits and Pieces II

1. Find each product. Show your work.

a. $\frac{2}{3} \times \frac{1}{2}$

b. $\frac{3}{5} \times \frac{10}{9}$

c. $\frac{3}{4} \times \frac{8}{9}$

d. $\frac{3}{2} \times \frac{5}{6}$

e. $\frac{2}{7} \times \frac{1}{3}$

f. $\frac{3}{8} \times \frac{12}{15}$

g. $\frac{9}{10} \times \frac{1}{6}$

h. $\frac{1}{2} \times \frac{6}{7}$

i. $360 \times \frac{7}{9}$

2. In a recent survey of 440 people, $\frac{1}{4}$ said that they watched television every evening, $\frac{2}{5}$ said they watched five or six nights each week, and the remainder said they watched four nights a week or less.

a. How many people in the survey watched television every evening? Explain how you found your answer.

b. How many people surveyed watched television five or six nights each week?

c. What fraction of the people surveyed watched television four nights each week or less? Explain how you found your answer.

d. How many people surveyed watch television four nights each week or less?

3. Jack and Phil are selling advertisements for the yearbook. A full-page ad will cost \$240. Advertisers who want only a fraction of a page will be charged that fraction of \$240. Jack and Phil's layout for one page is shown at the right.

a. What fraction of the whole page does each of the six regions occupy?

b. How much should Jack and Phil charge an advertiser who wants to place an ad that fills area A? Explain how you found your answer.

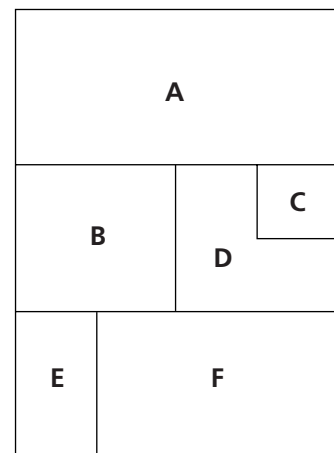
c. How much should Jack and Phil charge an advertiser who wants to place an ad that fills area D?

d. How much should an ad that fills area F cost?

e. Jack and Phil have sold advertising space in areas B, E, and C.

i. How much did they collect for the three ads?

ii. What fraction of the page is left for other advertisers?



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Additional Practice**Investigation 1****Bits and Pieces III**

1. Rosa and Tony need to estimate how much it will cost to purchase the following supplies for their class project.
 - 4 pieces of posterboard at \$2.89 each
 - 1 bottle of glue at \$1.19
 - 2 booklets of construction paper at \$4.99 each
 - 2 pairs of scissors at \$0.59 each
 - a. Estimate the cost of the supplies that Rosa and Tony need to buy. Explain.

 - b. In this situation, would it be better to overestimate or underestimate? Explain.

2. Which sum is greater? Explain.
 - a. $2.87 + 3.5$ or $1.49 + 2.8$

 - b. $3.07 + 5.1$ or $5.07 + 3.1$

 - c. $12.951 + 4.6$ or $16.6 + 0.738$

3. Which difference is greater? Explain.
 - a. $7.3 - 4.9$ or $8.5 - 3.2$

 - b. $25.041 - 8.3$ or $31.241 - 14.5$

 - c. $0.57 - 0.008$ or $0.6 - 0.044$

4. For each list, identify the greatest value. Explain.
 - a. 35.7, 35.07, 35.007

 - b. 608.9, 609.8, 690.8

 - c. 75.0605, 75.6050, 75.6500