

Chapter 3 - Fractions

Section 3.1 - Intro to fractions

Equivalent Fractions

$$\frac{1}{4} = \frac{2}{8}$$

← numerator
← denominator

$$\frac{1}{3} = \frac{4}{12} = \frac{2}{6}$$

Building Fractions

$$\frac{1 \cdot 2}{2 \cdot 2} = \frac{2}{4}$$

$$\frac{1 \cdot 3}{2 \cdot 3} = \frac{3}{6}$$

$$\frac{1 \cdot 5}{2 \cdot 5} = \frac{5}{10}$$

38. Write $\frac{3}{4}$ with a denominator of 24

$$\frac{3 \cdot 6}{4 \cdot 6} = \frac{18}{24}$$

48. $\frac{9 \cdot 6}{10 \cdot 6} = \frac{54}{60}$

Simplifying Fractions

$$66. \quad \frac{15 \div 5}{20 \div 5} = \frac{3}{4}$$

$$70. \quad \frac{6 \div 6}{30 \div 6} = \frac{1}{5}$$

$$\frac{6 \div 2}{30 \div 2} = \frac{3 \div 3}{15 \div 3} = \frac{1}{5}$$

Factor trees for 22 and 45:

```

    22
   / \
  2  11

    45
   / \
  9  5
 / \
3  3
    
```

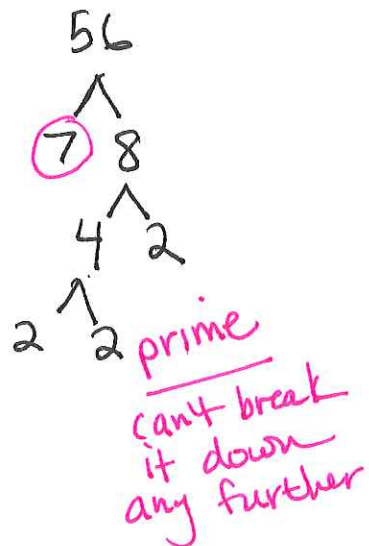
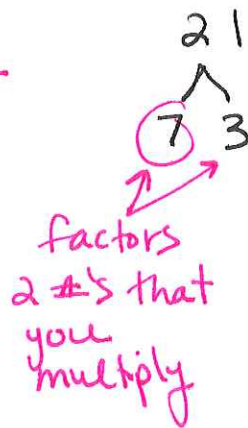
$$64. \quad a. \quad \frac{22}{45}$$

yes, this is in simplest form

Factor trees

$$b. \quad \frac{21 \div 7}{56 \div 7} = \frac{3}{8}$$

no



$\frac{11}{17}$ both prime lowest form

$$\frac{6 \div 6}{18 \div 6} = \frac{1}{3}$$

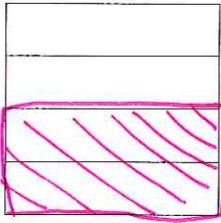
$$\frac{5 \div 5}{15 \div 5} = \frac{1}{3}$$

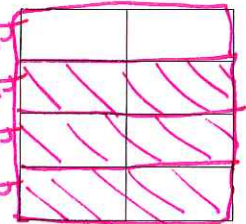
Composite not prime

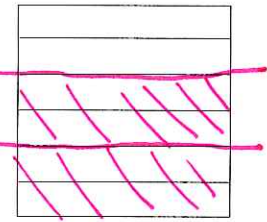
Fraction Shading

Name _____

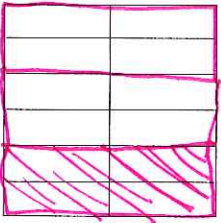
Shade the figure so that it represents the given fraction. Then write the corresponding equivalent fraction.

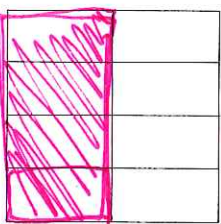
1.  $\frac{1}{2} =$ _____

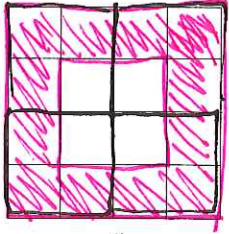
2.  $\frac{3}{4} =$ _____

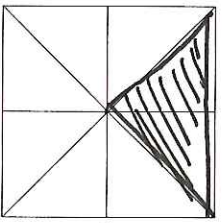
3.  $\frac{2}{3} =$ _____

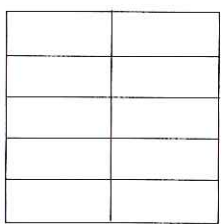
Number of pieces (with arrow pointing to the number 3 in the denominator of 2/3)
Denominator # of pieces (with arrow pointing to the number 3 in the denominator of 2/3)

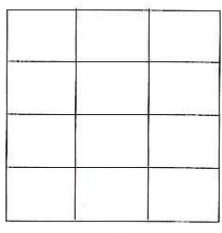
4.  $\frac{1}{3} =$ _____

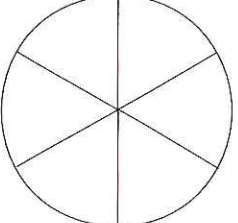
5.  $\frac{1}{2} =$ _____

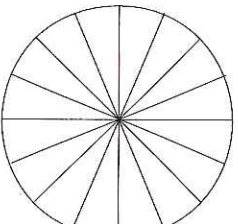
6.  $\frac{3}{4} =$ _____

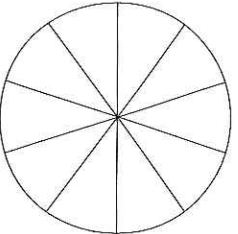
7.  $\frac{1}{4} =$ _____

8.  $\frac{3}{5} =$ _____

9.  $\frac{2}{3} =$ _____

10.  $\frac{1}{2} =$ _____

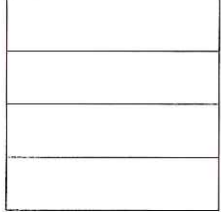
11.  $\frac{1}{8} =$ _____

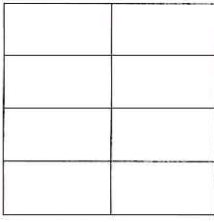
12.  $\frac{4}{5} =$ _____

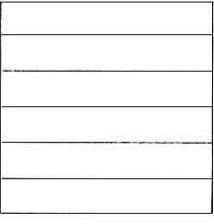
Fraction Shading

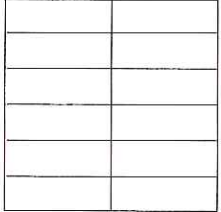
Name _____

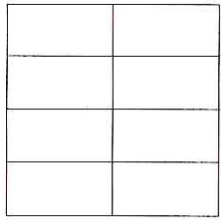
Shade the figure so that it represents the given fraction. Then write the corresponding equivalent fraction.

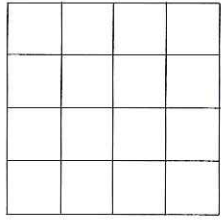
- 1.**  = _____

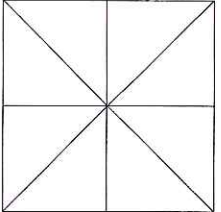
$\frac{1}{2} =$ _____
- 2.**  = _____

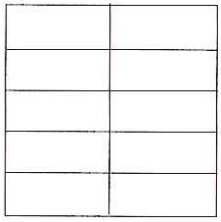
$\frac{3}{4} =$ _____
- 3.**  = _____

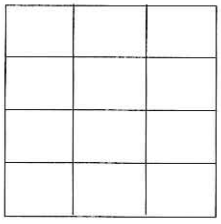
$\frac{2}{3} =$ _____
- 4.**  = _____

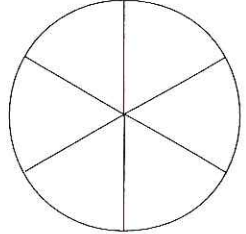
$\frac{1}{3} =$ _____
- 5.**  = _____

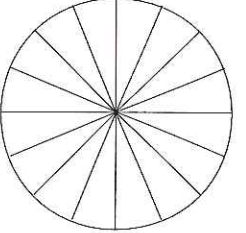
$\frac{1}{2} =$ _____
- 6.**  = _____

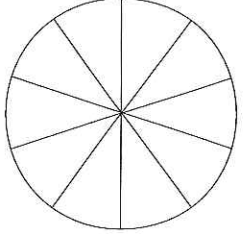
$\frac{3}{4} =$ _____
- 7.**  = _____

$\frac{1}{4} =$ _____
- 8.**  = _____

$\frac{3}{5} =$ _____
- 9.**  = _____

$\frac{2}{3} =$ _____
- 10.**  = _____

$\frac{1}{2} =$ _____
- 11.**  = _____

$\frac{1}{8} =$ _____
- 12.**  = _____

$\frac{4}{5} =$ _____

Prime and Composite Numbers

5. What is a prime number? List some examples.

7. How is the concept of prime and composite useful for reducing fractions?

6. What is a composite number? List some examples.

Divisibility Rules

A number is divisible by

- **2** if its last digit is divisible by 2 *even*
- **3** if the sum of the digits is divisible by 3
- 4** if the number formed by its last two digits is divisible by 4
- **5** if its last digit is 0 or 5
- 6** if it is divisible by both 2 and 3
- **9** if the sum of its digits is divisible by 9
- **10** if its last digit is 0

$$1452 \quad 1+4+5+2 \\ = 12 \div 3 \text{ yes} \\ 12 \div 9 \text{ no}$$

8. Is 2,940 divisible by 2? *yes*

$$2+9+4+0=15 \quad 3? \text{ yes}$$

4? *yes*

5? *yes*

6? *yes*

$$2+9+4+0=15 \quad 9? \text{ no}$$

10? *yes*

9. Is 43,785 divisible by 2?

3?

4?

5?

6?

9?

10?

Prime and Composite Numbers

5. What is a prime number? List some examples.

7. How is the concept of prime and composite useful for reducing fractions?

6. What is a composite number? List some examples.

Divisibility Rules

A number is divisible by

2 if its last digit is divisible by 2

3 if the sum of the digits is divisible by 3

4 if the number formed by its last two digits is divisible by 4

5 if its last digit is 0 or 5

6 if it is divisible by both 2 and 3

9 if the sum of its digits is divisible by 9

10 if its last digit is 0

8. Is 2,940 divisible by

2?

3?

4?

5?

6?

9?

10?

9. Is 43,785 divisible by

2?

3?

4?

5?

6?

9?

10?