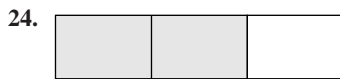


## Chapter Test for Chapter 1

1. (a) Natural numbers:  $\{8, \frac{12}{4}\}$   
 (b) Integers:  $\{-10, 8, \frac{12}{4}\}$   
 (c) Rational numbers:  
 $\{-10, 8, \frac{3}{4}, \frac{12}{4}, 6.5\}$
2.  $-\frac{3}{5} > -|-2|$
3.  $16 + (-20) = -4$
4.  $-50 - (-60) = -50 + 60 = 10$
5.  $7 + |-3| = 7 + 3 = 10$
6.  $64 - (25 - 8) = 64 - 17 = 47$
7.  $-5(32) = -160$
8.  $\frac{-72}{-9} = 8$
9.  $\frac{12 + 9}{7} = \frac{21}{7} = 3$
10.  $\frac{-(-2)(5)}{10} = \frac{-10}{10}$   
 $= -(-1)$   
 $= 1$
11.  $\frac{5}{6} - \frac{1}{8} = \frac{5(4)}{6(4)} - \frac{1(3)}{8(3)}$   
 $= \frac{20}{24} - \frac{3}{24}$   
 $= \frac{20 - 3}{24}$   
 $= \frac{17}{24}$
12.  $-27\left(\frac{5}{6}\right) = -\frac{27(5)}{1(6)}$   
 $= -\frac{27(5)}{1(6)}$   
 $= -\frac{9(3)(5)}{1(3)(2)}$   
 $= -\frac{45}{2}$
13.  $\frac{7}{16} \div \frac{21}{28} = \frac{7}{16} \cdot \frac{28}{21}$   
 $= \frac{7 \cdot 28}{16 \cdot 21}$   
 $= \frac{\cancel{7}(7)(4)}{(4)(4)(3)\cancel{7}}$   
 $= \frac{7}{12}$
14.  $\frac{-8.1}{0.3} = \frac{-8.1}{0.3} = -27$   
 $0.3 \overline{) 8.1} = 3 \overline{) 81}$   
 $\frac{27}{6}$   
 $\frac{21}{21}$
15.  $-\left(\frac{2}{3}\right)^2 = -\left(\frac{2}{3} \cdot \frac{2}{3}\right) = -\frac{4}{9}$
16.  $35 - (50 \div 5^2) = 35 - (50 \div 25)$   
 $= 35 - 2$   
 $= 33$
17. Distributive Property
18. Multiplicative Inverse Property
19. Associative Property of Addition
20. Commutative Property of Multiplication
21.  $\frac{30}{72} = \frac{5(\cancel{6})}{12(\cancel{6})} = \frac{5}{12}$
22.  $-3^4 = -(3 \cdot 3 \cdot 3 \cdot 3) = -81$   
 $(-3)^4 = (-3)(-3)(-3)(-3)$   
 $= 81$
23.  $32 - 3 \cdot 2^3 = 32 - 3 \cdot 8$  exponentiation  
 $= 32 - 24$  multiplication  
 $= 8$  subtraction

These expressions are not equal; the bases of the exponents are not the same.



$\frac{2}{3}$  or  $\frac{6}{9}$

Other possible answers include  $\frac{8}{12}, \frac{10}{15}, \frac{12}{18}$ , etc. The answer in reduced form is  $\frac{2}{3}$ .