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| CHAPTER 1, FORM A  COLLEGE ALGEBRA AND TRIGONOMETRY | NAME \_\_\_\_\_  DATE |
|  |  |

*Solve each equation.*

**1.**  **1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**2.**  **2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**3.**  **3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**4.**  **4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**5.**  **5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**6.**  **6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**7.**  **7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**8.**  **8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**9.**  **9. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**10.**  **10. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**11.**  **11. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**12.** The formula for the surface area of an open topped rectangular box is **12.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 where  and represent surface area,  
 height, width, and length, respectively. Solve this formula for 

*Perform each operation. Give the answer in standard form.*

**13.**  **13.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**14.**  **14.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**15.**  **15.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**CHAPTER 1, FORM A**

**16.** Simplify the following power of :  **16.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Solve each inequality. Give the answer using interval notation.*

**17.**  **17.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**18.**  **18.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**19.**  **19.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**20.**  **20.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**21.**  **21.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Solve each problem.*

**22.** Bob Grey invests $22,000, some at 2% and some at 4%. **22.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
 annual interest. If he receives an annual return of $670,   
 how much is invested at each rate?

**23.** Jack can paint his apartment in 12 hr. His wife Cheryl **23.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
 requires 20 hr to do the same job. How long would it take  
 them to complete the job if they worked together?

**24.** A baseball is thrown straight upward with an initial speed **24.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
 of 64 ft/sec. The number of feet *s* above the ground after  
 *t* seconds is given by the equation    
 At what times will the baseball be 48 ft above the ground?

**25.** The number *y* of students attending Nequa Valley High School **25.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
 between 1988 and 1996 can be approximated by the model  
    
 where  corresponds to 1988. Based on this model, in what  
 year did the school have about 1550 students?

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| CHAPTER 1, FORM B  COLLEGE ALGEBRA AND TRIGONOMETRY | NAME  DATE |

*Solve each equation.*

**1.**  **1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**2.**  **2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**3.**  **3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**4.**  **4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**5.**  **5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**6.**  **6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**7.**  **7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**8.**  **8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**9.**  **9. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**10.**  **10. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**11.**  **11. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**12.**  **12.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Perform each operation. Give the answer in standard form.*

**13.**  **13.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**14.**  **14.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**CHAPTER 1, FORM B**

**15.**  **15.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**16.** Simplify the following power of :  **16.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Solve each inequality. Give the answer using interval notation.*

**17.**  **17.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**18.**  **18.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**19.**  **19.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**20.**  **20.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**21.**  **21.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Solve each problem.*

**22.** What weight of an alloy containing 10% silver must be melted with an **22.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
alloy containing 60% silver to obtain 10 lb of an alloy containing 40%   
silver?

**23.** The cost of installing insulation in a particular two bedroom home **23.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
 is $2400. Present monthly heating costs average $200, but the   
 insulation is expected to reduce heating costs by 10%. How many   
 months will it take to recover the cost of the insulation?

**24.** The population y of Stevensville between 1986 and 1995 can **24.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
 be approximated by the model    
 where  corresponds to 1986. Based on this model, in what  
 year was the population about 6250?

**25.** A ball is thrown upward from ground level with an initial **25.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
 velocity of 108 ft per sec. Its height *h* in feet after *t* seconds  
 is given by the equation    
 At what times will the ball be 180 ft above the ground?

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| CHAPTER 1, FORM C  COLLEGE ALGEBRA AND TRIGONOMETRY | NAME  DATE |

*Solve each equation.*

**1.**  **1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**2.**  **2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**3.**  **3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**4.**  **4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**5.**  **5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**6.**  **6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**7.**  **7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**8.**  **8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**9.**  **9. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**10.**  **10. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**11.**  **11. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**12.** Solve the following equation for *x*: **12.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Perform each operation. Give the answer in standard form.*

**13.**  **13.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**14.**  **14.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**15.**  **15.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**16.** Simplify the following power of :  **16.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**CHAPTER 1, FORM C**

*Solve each inequality. Give the answer using interval notation.*

**17.**  **17.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**18.**  **18.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**19.**  **19.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**20.**  **20.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**21.**  **21.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Solve each problem.*

**22.** How many pounds of extra-lean hamburger that is 7% fat **22.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
must be mixed with 30 pounds of hamburger that is 15% fat  
to obtain a mixture that is 10% fat?

**23.** A workman’s basic hourly wage is $24, but he receives one **23.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
 and a half times his hourly rate for any hours worked in   
 excess of 40 hours per week. If his paycheck for the week   
 is $1392, how many hours of overtime did he work?

**24.** A ball is thrown upward from ground level with an initial **24.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
 velocity of 108 ft per sec. Its height *h* in feet after *t* seconds  
 is given by the equation    
 At what time will the ball hit the ground?

**25.** The number *y* of visitors to Dragon Lake State park between **25.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
 1984 and 1992 can be approximated by the model  
   
 where  corresponds to 1984. Based on this model, in what  
 year did the park have about 8500 visitors?

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| CHAPTER 1, FORM D  COLLEGE ALGEBRA AND TRIGONOMETRY | NAME  DATE |

*Solve each equation.*

**1.**  **1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**2.**  **2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**3.**  **3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**4.**  **4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**5.**  **5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**6.**  **6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**7.**  **7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**8.**  **8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**9.**  **9. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**10.**  **10. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**11.**  **11. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**12.** Solve the following equation for *C*: **12.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Perform each operation. Give the answer in standard form.*

**13.**  **13.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**14.**  **14.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**15.**  **15.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**CHAPTER 1, FORM D**

**16.** Simplify the following power of :  **16.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Solve each inequality. Give the answer using interval notation.*

**17.**  **17.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**18.**  **18.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**19.**  **19.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**20.**  **20.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**21.**  **21.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Solve each problem.*

**22.** How many gallons of a cream that is 22% butterfat must be **22.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
mixed with milk that is 2% butterfat to get 20 gallons   
of milk containing 4% butterfat?

**23.** Jay invested $28,500 in two accounts, one paying **23.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
 2.5% simple interest, and the other paying 3.5%. She  
 received $877.50 in interest for 1 yr. How much did she  
 invest each time?

**24.** An arrow is shot upward from a platform 40 ft high with an **24.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
 initial velocity of 224 ft per sec. Its height *h* in feet after  
 *t* seconds is given by the equation    
 At what times will the arrow be 424 ft above the ground?

**25.** The number *y* of students enrolled in Fox Grove Community **25.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
College between 1983 and 1990 can be approximated by the   
model   
where  corresponds to 1983. Based on this model, in  
what year did the college have about 8800 students?

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| CHAPTER 1, FORM E  COLLEGE ALGEBRA AND TRIGONOMETRY | NAME  DATE |

*Choose the best answer.*

*Solve each equation.*

**1.**  **1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**a.**  **b.**  **c.**  **d.** 

**2.**  **2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**a.**  **b.**  **c.**  **d.** 

**3.**  **3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**a.**  **b.** 

**c.**  **d.** 

**4.**  **4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**a.**  **b.** 

**c.**  **d.** 

**5.**  **5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**a.**  **b.**  **c.**  **d.** 

**6.**  **6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**a.**  **b.**  **c.**  **d.** 

**7.**  **7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**a.**  **b.**  **c.**  **d.** 

**CHAPTER 1, FORM E**

**8.**  **8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**a.**  **b.** 

**c.**  **d.** 

**9.**  **9. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**a.**  **b.**  **c.**  **d.** 

**10.**  **10.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**a.**  **b.**  **c.**  **d.** 

**11.**  **11.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**a.**  **b.**  **c.**  **d.** 

**12.** Solve the following equation for *x*: **12.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**a.**  **b.** 

**c.**  **d.** 

*Perform each operation. Give the answer in standard form.*

**13.**  **13.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**a.**  **b.**  **c.**  **d.** 

**14.**  **14.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**a.**  **b.** 

**c.**  **d.** 

**15.**   **15.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**a.**  **b.**  **c.**  **d.** 

**CHAPTER 1, FORM E**

**16.** Simplify the following power of *i*: **16.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**a.**  **b.**  **c.**  **d.** 

*Solve each inequality. Give the answer using interval notation.*

**17.**  **17.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**a.**  **b.**  **c.**  **d.** 

**18.**  **18.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**a.**  **b.** 

**c.**  **d.** 

**19.**  **19.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**a.**  **b.**  **c.**  **d.** 

**20.**  **20.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**a.**  **b.**  **c.**  **d.** 

**21.**  **21.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**a.**  **b.** 

**c.**  **d.** 

*Solve each problem.*

**22.**  A 60% alcohol solution is to be mixed with a 42% alcohol solution. **22.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
How many liters of the 60% solution should be used to make 30 liters   
of a 54% alcohol solution?

**a.**  **b.**  **c.**  **d.** 

**23.**  Two cars leave at the same point at the same time traveling in opposite **23.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
directions. One travels 8 mph slower than the other. After 4 hr, they   
are 368 mi apart. Find the speed of the faster car.

**a.**  **b.**  **c.**  **d.** **CHAPTER 1, FORM E**

**24.**  The number *y* of people attending the Ozark Mountain Bluegrass **24.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Festival between 1989 and 1996 can be approximated by the model  
 where  corresponds to 1989. Based  
on this model, in what year was the festival attendance about 1800?

**a.**  **b.**  **c.**  **d.** 

**25.**  The height in feet of an object thrown upward is given by the equation **25.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
 where *h* is the height of the object after *t* seconds. After  
how many seconds will the object reach a height of 100 feet?

**a.** sec **b.** sec **c.** sec **d.** sec

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| CHAPTER 1, FORM F  COLLEGE ALGEBRA AND TRIGONOMETRY | NAME  DATE |

*Choose the best answer.*

*Solve each equation.*

**1.  1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**a.  b. **  **c.** **** **d.** ****

**2.  2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**a.  b. ** **c.**  **** **d.** ****

**3.  3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**a. **  **b.**  ****

**c.  d. **

**4.  4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**a.  b. ** **c.** **** **d.** ****

**5.  5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**a. **  **b.** ****

**c.  d. **

**6.  6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**a.  b. ** **c.** **** **d.** ****

**7.**  **7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**a.**  **b.**  **c.**  **d.** 

**CHAPTER 1, FORM F**

**8.  8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**a. **  **b.**  ****

**c.  d. **

**9.  9. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**a.  b. ** **c.** **** **d.** ****

**10.  10.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**a.  b. ** **c.** **** **d.** ****

**11.  11.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**a.  b. ** **c.** **** **d.** ****

**12.** Solve the following equation for *x*: ** 12.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**a.  b.**  ****

**c.  d. **

*Perform each operation. Give the answer in standard form.*

**13.  13.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**a.  b. **  **c.**  **d.** 

**14. **  **14.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**a.  b.**  ****  **c.  d.  **

**15.  15.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**a.  b. ** **c.** **** **d.** ****

**CHAPTER 1, FORM F**

**16.** Simplify the following power of *i*: ** 16.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**a.  b. **  **c.**  **d.** 

*Solve each inequality. Give the answer using interval notation.*

**17.  17.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**a.  b. ** **c.** **** **d.** ****

**18.  18.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**a.  b. **

**c.** ****  **d.** 

**19.  19.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**a.  b.**  ****

**c.  d. **

**20.  20.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**a.  b. **

**c.** ****  **d.** ****

**21.  21.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**a.  b.**  ****  **c.  d. **

*Solve each problem.*

**22.**  Two runners, Alma and Kim, leave home at the same time and jog **22.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
in different directions. Alma travels east at a uniform rate that is 2 mph  
faster than Kim, who is traveling west. After 2 hr, they are 28 mi apart.  
Find Alma’s rate.

**a.** 4 mph **b.** 6 mph **c.** 8 mph **d.** 10 mph

**CHAPTER 1, FORM F**

**23.**  Mona can process 100 requests in 4 hr, and Jane can process 100 **23.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
requests in twice the time. How long will it take both Mona and   
Jane, working together, to process 200 requests?

**a. ** hr **b.** 6 hr **c.** **** hr **d.** **** hr

**24.**  The number *y* of fish in Silver Lake between 2000 and 2015 can be **24.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
approximated by the model    
where *x* corresponds to the year 2000. Based on this model, in what  
year was the fish population about 100,000?

**a.** 2005 **b.** 2007 **c.** 2010 **d.** 2012

**25.**  The height in feet of an object thrown upward is given by the equation **25.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
 where *h* is the height of the object after *t* seconds. After  
how many seconds will the object reach a height of 36 feet?

**a. ** sec **b. ** sec **c.** 2sec **d.** 5sec