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 *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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 *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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 *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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 *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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 *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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 *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