**Chapter 8 Practice Tizzy Quest** SCORE \_\_\_\_\_\_\_\_\_\_\_

**1.** For what value(s) of *x* is the expression undefined?

**Simplify each expression.**

**2.** ÷

**3.**

**4.**

**5.** –

**6.** –

**Find the LCM of each set of polynomials.**

**7.** 4*p*, 9*m*, 18

**8.**  – 2*n* – 8, + 2*n* – 24

**For Questions 9 and 10, determine the equations of any vertical asymptotes and the values of *x* for any points of discontinuity in the graph of each rational function.**

**9.** *f*(*x*) =

**10.** *f*(*x*) =

**11.** Graph *f*(*x*) =

**12.** If *y* varies jointly as *x* and *z* and *y* = 6 when *x* = 4 and *z* = 12, find *y* when

*x* = 24 and *z* = 5.

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

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

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

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

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

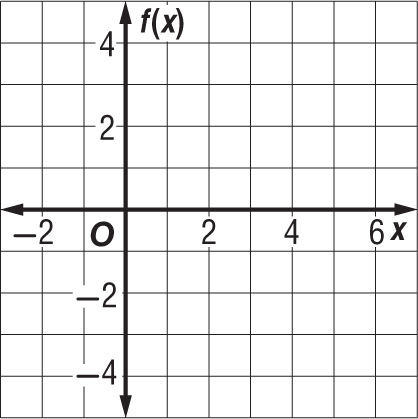
**6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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

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

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

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

**11.**

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

**Chapter 8 Tizzy Quest** *(continued)*

**13. PHOTOGRAPHS** A film-developing company noted that in a particular town the number of customers requesting online delivery of their vacation pictures varied directly with the number of households having high-speed Internet access. Currently, 5000 households in the town have high-speed Internet access and 80 customers request online delivery of their photographs. If this trend continues, how many customers should the film-developing company expect to request online delivery when 12,000 households have high-speed Internet access?

**14.** If *y* varies inversely as *x* and *y* = 25 when *x* = 6, find *y* when *x* = 150.

**15. GASES** The volume *V* of a gas varies inversely as its pressure *P*. If *V* = 80 cubic centimeters when *P* = 2000 millimeters of mercury, find *V* when *P* = 320 millimeters of mercury.

**For Questions 16 and 17, state whether each equation represents a *direct*, *joint*, *inverse*, or *combined* variation.**

**16.** = *r,* with dependent variable *r*

**17.** = 1, with dependent variable *n*

**For Questions 18 and 19, solve each equation or inequality.**

**18.** *x* + =

**19.** 9 + >

**20. PAINTING** Alice can paint a room in 8 hours. Her assistant can paint the same room in 12 hours. How long will it take if the two of them work together?

**Bonus** Solve = 1.

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

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

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

**16. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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

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

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

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

**B: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**