

CH 2 REVIEW HW PRIOR TO TEST

Tell whether the number is a real number, a rational number, an irrational number, an integer, or a whole number.

- 1. $-\frac{1}{4}$ **RAT.**
 - 2. $\sqrt{90}$ **IRRAT.**
 - 3. $-\sqrt{144}$ **RAT. INTEGER**
 - 4. 8.95 **RAT.**
- ALL REAL NUMBERS** **NO WHOLE #'S**

Order the numbers in the list from least to greatest.

- 5. $-\frac{5}{3}, -2, 3, \frac{1}{2}, -1.07$ **$-1\frac{2}{3}, -2, -\frac{5}{3}, -1.07, \frac{1}{2}, 3$**
- 6. $\sqrt{15}, -4.3, 4.2, 0, -\sqrt{25}$ **$-\sqrt{25}, -4.3, 0, \sqrt{15}, 4.2$**

Find the sum, difference, product, or quotient.

- 7. $-5 + 2$ **-3**
- 8. $1.3 + (-10.4)$ **-9.1**
- 9. $-\frac{1}{3} + \frac{1}{6}$ **$-\frac{1}{6}$**
- 10. $-\frac{2}{7} - \frac{5}{14}$ **$-\frac{9}{14}$**
- 11. $-41 - 32$ **-73**
- 12. $7.2 - (-11.6)$ **18.8**
- 13. $-11(-7)$ **77**
- 14. $-4.5(20)(2)$ **-180**
- 15. $-\frac{1}{5}(-20)(-5)$ **-20**
- 16. $-36 \div (-6)$ **6**
- 17. $-\frac{3}{5} \div 12$ **$-\frac{1}{20}$**
- 18. $5 \div (-\frac{10}{11})$ **$-5\frac{1}{2}$**

Evaluate the expression when $x = -6$ and $y = -10$.

- 19. $-x$ **$-(-6) = 6$**
- 20. $|y|$ **$|-10| = 10$**
- 21. $8 - (x - y)$ **$8 - (-6 - (-10)) = 8 - 4 = 4$**
- 22. $-4x + y$ **$-4(-6) + -10 = 14$**

Simplify the expression.

- 23. $-9(y - 7)$ **$-9y + 63$**
- 24. $8(x - 4) - 10x$ **$-2x - 32$**
- 25. $\frac{-7w - 21}{7}$ **$-w - 3$**
- 26. $\frac{-16v + 8}{-4}$ **$4v - 2$**

In Exercises 27 and 28, rewrite the conditional statement in if-then form. Then tell whether the statement is true or false. If it is false, give a counterexample.

- 27. No rational numbers are integers. **IF A NUMBER IS RATIONAL THEN IT IS NOT AN INTEGER IS FALSE**
 - 28. All irrational numbers are real numbers. **TRUE**
- EX: -2 IS RAT + INTEGER**

29. **MUSIC** The revenue from sales of digital pianos in the United States was \$152.4 million in 2001 and \$149.0 million in 2002. Find the change in revenue from 2001 to 2002.

REVENUE DECREASED -\$3.4 million

30. **ELEVATORS** An elevator moves at a rate of -5.8 feet per second from a height of 300 feet above the ground. It takes 3 seconds for the elevator to make its first stop. How many feet above the ground is the elevator now?

$300 + 3(-5.8) = 282.6$ FT ABOVE GROUND

31. **SUMMER JOBS** You plan to work a total of 25 hours per week at two summer jobs. You will earn \$8.75 per hour working at a cafe and \$10.50 per hour working at an auto shop. Write an equation that gives your weekly pay p (in dollars) as a function of the time t (in hours) spent working at the cafe. Then find your weekly pay if you work 10 hours at the cafe.

KT: 25 HRS PER WK FOR 2
\$8.75/hr - Cafe
\$10.50/hr - auto

P = WEEKLY PAY \$'S
T = TIME (HRS) AT CAFE
25 - T = AT AUTO

P = 8.75T + 10.50(25 - T)
SIMPLIFY P = -1.75T + 262.5
PAID \$245 IF WORK HRS AT CAFE

32. **TEMPERATURES** The low temperatures for Montreal, Quebec, in Canada on February 12 for each year during the period 2000-2004 are -6.7°F, -4.2°F, 4.1°F, -3.6°F, and 0.3°F. Find the mean of the temperatures.

MEAN = $-\frac{10.1}{5}$ **MEAN TEMP IS -2.02°F**