

Chapter 1 Honors Practice Test

Simplify each expression.

1. $-\frac{1}{5}(-5 + 20p)$

$1 - 4p$

2. $-7(3t - (5 - 8))$

$-7(3t + (+3))$

$-21t - 21$

Solve each proportion.

3. $\frac{3}{1.2} = \frac{4}{k}$

$\sqrt[1.2]{4.8}$

$3k = 4.8$
 $k = 1.6$

4. $\frac{12}{48} = \frac{g}{20}$

$48g = 240$
 $g = 5$

Solve each equation. Check your answer.

5. $9y + 1 = 3y - 31$

$6y = -32$
 $y = -5.3$

6. $\frac{1}{7}(t + 7) = 43$

$\frac{1}{7}t + 1 = 43$
 $t = 294$

7. $\frac{2h-6}{12} = \frac{2}{4}$

$8h - 24 = 24$

$8h = 48$

$h = 6$

8. $|2x + 11| = -7$

No Solution

9. $6|8 - y| = 24$

$|8 - y| = 4$
 $8 - y = 4$ or $8 - y = -4$
 $-y = -4$ or $-y = -12$
 $y = 4$ or $y = 12$

10. $|2x + 1| - 3 = 22$

$|2x + 1| = 25$
 $2x + 1 = 25$ or $2x + 1 = -25$
 $2x = 24$ or $2x = -26$
 $x = 12$ or $x = -13$

Convert the given amount to the given unit.

11. 260 min; sec

$15,600 \text{ sec}$

$260 \text{ min} \cdot \frac{60 \text{ sec}}{1 \text{ min}} =$

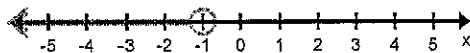
12. $3a - 5b = -10$ for b

$-5b = -10 - 3a$

$b = \frac{10 + 3a}{5}$

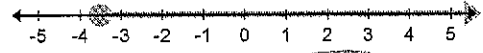
Write an inequality for each graph.

13.



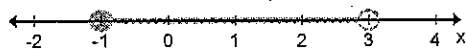
$x < -1$ $(-\infty, -1)$

14.



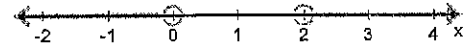
$x \geq -3.5$ $[-3.5, \infty)$

15.



$-1 \leq x < 3$
 $[-1, 3)$

16.



$x < 0$ or $x > 2$
 $(-\infty, 0) \cup (2, \infty)$

Chapter 1 Honors Practice Test Cont.

Solve each inequality. Check your solution.

17. $|2r + 6| \geq 8$

$2r + 6 \geq 8$ or $2r + 6 \leq -8$
 $2r \geq 2$ or $2r \leq -14$

$r \geq 1$ or $r \leq -7$

19. $-2 < 3c + 7 < 22$

$-9 < 3c < 15$

$-3 < c < 5$

21. $2f \geq -10f + 48$

$12f \geq 48$

$f \geq 4$

18. $|3v + 9| \leq 27$

$-12 \leq v \leq 6$

$3v + 9 \leq 27$ and $3v + 9 \geq -27$

$3v \leq 18$
 $v \leq 6$

$3v \geq -36$
 $v \geq -12$

20. $-3b > 42$ or $4b > -12$

$b < -14$ or $b > -3$

22. $4x - 8 < -2x + 18$

$6x < 26$

$x < 4.3$

Define a variable and write an equation to model each situation. Then solve.

23. The scale of a map is 1 cm: 35 mi. Determine the distance between two cities that are 4.2 cm apart on the map.

147 miles

$\frac{1 \text{ cm}}{35 \text{ mi}} = \frac{4.2 \text{ cm}}{x}$

$147 = x$

24. A box of cereal should have a mass of 495 g. The quality control inspector measures the mass of every fiftieth box. The inspector rejects any box that is not within 10 g of the ideal mass. Find the range of acceptable masses. Write and solve an absolute value inequality for this situation.

between 485 and 505 g
 Inclusive

$|x - 495| \leq 10$

$-10 \leq x - 495 \leq 10$
 $485 \leq x \leq 505$

25. **Writing** Explain how to solve $|2d| - 3 < 9$.

Add 3 to both sides $|2d| < 12$
 rewrite inequalities $2d < 12$ and $2d > -12$
 divide both sides by 2 $d < 6$ and $d > -6$
 final answer $-6 < d < 6$

Bonus: A student ran 100 yds. in 11.2 sec. At what speed did the student run in miles-per-hour? Round to the nearest mile-per-hour.