Chapter 1 Test — Form A

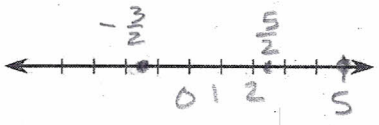
(Page 1 of 3 pages)

Name _____

Date _____

1. Plot the numbers on the real number line. Then decide which is the greatest.

$2\frac{1}{2}$ $\frac{5}{2}$, $-\frac{3}{2}$, 5



1. 5 — *Use graph at left.*

2. Write the numbers in *increasing* order.

$\frac{5}{3}$, -2, 0, $-\frac{7}{2}$, $\frac{3}{5}$, $\frac{4}{3}$, -1

$-\frac{7}{2}, -2, -1, 0, \frac{3}{5}, \frac{4}{3}, \frac{5}{3}$

2. _____

3. State the property that is illustrated.

$3 \cdot (5 \cdot 7) = (3 \cdot 5) \cdot 7$

3. Associative Property of multiplication

4. State the property that is illustrated.

$5 + (-5) = 0$

4. Inverse property of addition

5. What is the difference of 15 and -12?

$15 - (-12) =$

5. 27

6. Evaluate the expression. $80 - (20)(3) \div 5$

$80 - \frac{60}{5} = 80 - 12 = 68$

6. 68

7. Evaluate $(7 + 5y) \div 3x$ when $x = \frac{1}{6}$ and $y = 3$.

$\frac{7+5(3)}{3(\frac{1}{6})} \quad \frac{22}{\frac{1}{2}} = 22 \cdot \frac{2}{1} =$

7. 44

8. Evaluate the expression to two decimal places.

$37.15 - 4.55z$ when $z = 3.42$

$37.15 - 4.55(3.42) =$

8. 21.59

9. Solve the equation.

$-x + 3 = 7x + 8$

$+x \quad -8 \quad +x \quad -8$

$-5 = 8x \qquad x = \frac{-5}{8}$

9. $-5/8$

10. Solve the equation.

$5(3 - 4x) = 7 - (4 - x)$

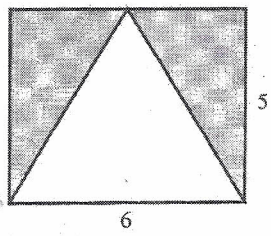
$15 - 20x = 7 - 4 + x$

$-3 \quad +20x \qquad -3 \quad +20x$

$12 = 21x \qquad x = \frac{12}{21} \div 3 = \frac{4}{7}$

10. $x = \frac{4}{7}$

11. ***Geometry*** Find the area of the shaded region.



$6 \cdot 5 - \frac{1}{2}(6 \cdot 5) =$

$30 - 15 = 15$ sq. units

11. 15 sq. units

12. Write the following expression using exponents.

"x cubed, times 3 to the nth power"

12. $x^3 \cdot 3^n$

13. Evaluate $2a^3 + (2a)^2$ when $a = -2$.

$2(-2)^3 + (2 \cdot -2)^2 = -16 + 16 = 0$

13. $\emptyset$

14. ***Average Salary*** For 1980 through 1990, the average salary, A, (in 1000's of dollars), of assistant principals at public high schools can be modeled by $A = 2t + 25$ where $t = 0$ represents 1980. Approximate a high school assistant principal's salary in 1987.

$A = 2(7) + 25$

$= 39$

14. \$39,000

15. ***Temperature Conversion*** Solve for F.

$C = \frac{5}{9}(F - 32)$

$\frac{9}{5}C = F - 32 \qquad F = \frac{9}{5}C + 32$

15. $F = \frac{9}{5}C + 32$

© D. C. Heath and Company Algebra 2

16. Solve for q.

$$p^2q - 3q = 14$$

$q(p^2-3) = 14$

$q = \frac{14}{p^2-3}$

16. $q = \frac{14}{p^2-3}$

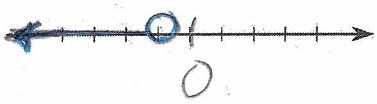
17. Solve the inequality and sketch its graph.

$$x - 1 < -2(2 + x)$$

$x - 1 < -4 - 2x$

$+1 \quad +1 \quad +2x \quad +2x$

$\frac{3x}{3} < \frac{-3}{3}$ $\quad x < -1$



17. $x < -1$ *Use graph at left.*

18. Is $x = \frac{5}{2}$ a solution of the inequality

$$5x - 4 \leq 3(x - 7)?$$

$5x \leq 3x - 21 + 4$

$2x \leq -17$

$x \leq \frac{-17}{2}$ $\quad x \leq -8\frac{1}{2}$

18. No

19. Solve the inequality and sketch its graph.

$$|3x - 2| \leq 5$$

$3x - 2 \leq 5$ $\quad -(3x-2) \leq 5$

$3x \leq 7$ $\quad -3x + 2 \leq 5$

$-2 \quad -2$

$x \leq \frac{7}{3}$ or $2\frac{1}{3}$ $\quad \frac{-3x}{-3} \leq \frac{3}{-3}$ $\quad x \geq -1$

$-1 \leq x \leq \frac{7}{3}$

19. *Use graph at left.*

20. *Stock Investment* You have \$15,000 available to invest in two stocks, A and B. Write an inequality stating the restriction on A and B.

20. $0 \leq A + B \leq 15{,}000$