

(Chapters 8, 9, and 10)

Simplify.

1. $(5^2)^4$

2. $(g^{-5})^2(g)^4$

3. Solve $7x + 3 = 2x - 12$.

4. Write an inequality for *a number increased by 7 is at most -23*.5. Complete the function table for the function $f(x) = 4x - 2$.

1. _____

2. _____

3. _____

4. _____

5.

x	$4x - 2$	$f(x)$
-3		
-1		
1		
3		

For questions 6 and 7, determine whether a scatter plot of the data might show a *positive*, *negative*, or *no relationship*.

6. number of passengers on a plane and the flight time

7. number of vehicles on the highway and the drive time during rush hour

8. **BASKETBALL** A professional basketball player can have no more than 6 fouls in a game. Write an inequality for the sentence.

9. $\sqrt[3]{k^{36}}$

10. $\sqrt{\frac{1}{81}a^6b^{12}}$

11. Translate *twelve more than five times a number is 15* into an equation. Then find the number.12. Graph $y = -2x + 4$. Find the slope of the line.

6. _____

7. _____

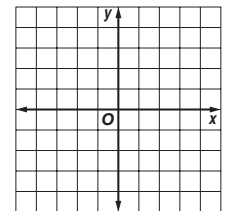
8. _____

9. _____

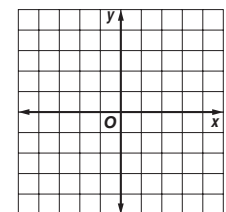
10. _____

11. _____

12. _____

13. Graph a line with a slope of $-\frac{2}{3}$ and a y -intercept -1 .

13.



10**Unit 4 Test** *(continued)**(Chapter 10)*

14. Find $f(8)$ if $f(x) = 1 - 3x$

14. _____

15. **BAKING** A recipe for corn casserole requires $2\frac{1}{4}$ cups of corn for every 10 servings. How many cups of corn is required to make enough casserole to serve 50?

15. _____

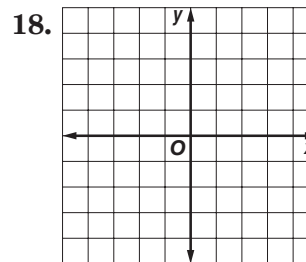
16. If y varies directly with x , write an equation for the direct variation. Then find the value. If $x = \frac{2}{3}$ when $y = 9$, find the value of y when $x = 6$.

16. _____

17. Find the slope of the line that passes through $A(0, 10)$ and $B(12, -14)$.

17. _____

18. Graph $y = x^2 - 3$.



Determine whether each equation or table represents a linear or nonlinear function. Explain.

19. $y = 17$

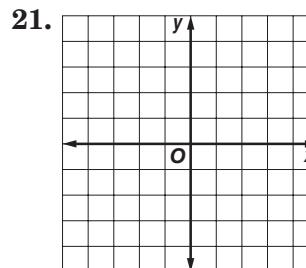
20.

x	-5	-4	-3	-2
y	0	1	3	6

19. _____

20. _____

21. Graph $y = -2x^3 + 2$



22. Find $4g \cdot 8g^5$. Express using exponents.

22. _____

23. Find $\frac{32d^8}{4d^2}$. Express using exponents.

23. _____