Homework 5

Algebra

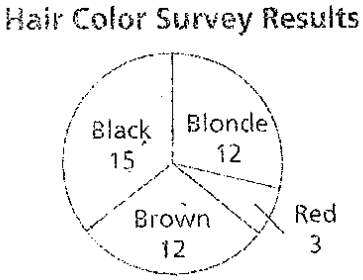
Topics

Writing, Simplifying, and Evaluating Expressions | Solving Equations Writing and Solving Inequalities | Ratios | Rate of Change

1. Kiko baked a batch of cookies. She ate 3 cookies and then gave half of the ramining cookies to her friends. If *c* represents the number of cookies that Kiko bakes, which expression shows the number of cookies she gave to her friends?

a. $(c - 3) \div 2$
b. $(c - 2) \div 3$
c. $c \div 2 - 3$
d. $c - 3 \div 2$

2. Dirk recorded the hair color of every student in his class. He made this circle graph to show his results.



What is the ratio of the number of students with blonde or red hair to the number of students with black or brown hair?

a. 5 : 9
b. 1 : 3
c. 3 : 1
d. 9 : 5

3. Find the value of f in $3f - 2 = 16$.

a. *f* = 18
b. *f* = 6
c. $f = 4\frac{2}{3}$
d. *f* = 3.8

4. Randy earned $37.50 in 5 hours. How much did he earn in one hour?

a. $6.30
b. $7.10
c. $7.50
d. $187.50

5. What is the value of this expression when *t* = 3 and *r* = 15? $90 \div (10 \times t) + r$

a. 2
b. 18
c. 30
d. 42

6. Sue uses 28 beads to make a bracelet. She uses less than 4 times that many beads to make a necklace. Which inequality shows the number of beads *(b)* that Sue uses to make a necklace?

a. $b < 7$
b. $b \leq 7$
c. $b < 112$
d. $b \leq 112$

7. Simplify this expression. $(6 + 5)^2 - 9 \div 3$

a. 28
b. 43
c. 115
d. 118

8. Look at the rate table below. If the temperature continues to rise at the same rate, what will ne the temperature at 11:00am?

Time (am)	7	8	9	10
Temperature	55°	58°	61°	64°

9. Solve for *b*. $24 \div b = 6$

a. *b = 3*
b. *b = 4*
c. *b = 8*
d. *b = 144*

10. What is the solution of the inequality?

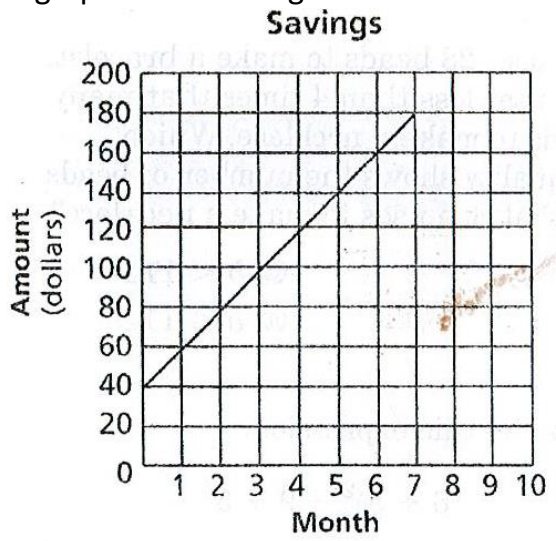
$3d < 24 + d$

a. *d < 4*
c. *d < 8*
b. *d < 6*
d. *d < 12*

11. Which expression represents the phrase *5 times a number divided by 8*?

a. $8n \div 5$
c. $\frac{5n}{8}$
b. $\frac{5}{8} + n$
d. $8n \div 5$

12. Emil started a savings account with $40. She drew this graph of her savings over 7 months.



Which describes how her savings changed over time?

a. Her savings decreased $10 per month.
b. Her savings decreased $20 per month.
c. Her savings increased $10 per month.
d. Her savings increased $20 per month.

13. Solve for p. $\frac{1}{6} + p = 2\frac{1}{2}$

a. $2\frac{1}{6}$
c. $2\frac{2}{3}$
b. $2\frac{1}{3}$
d. $2\frac{5}{6}$

14. Simplify. $2(7a - b) + 3(a - 6b)$

a. $17a - 20b$
c. $17a - 7b$
b. $40a - 25b$
d. $11a - 16b$

15. Find the value of *k* in $\frac{k}{7} + 6 = 55$.

a. $k = 7$
c. $k = 343$
b. $k = 8\frac{5}{7}$
d. $k = 427$

16. Evaluate this expression for *x + 10, y = 4, and z = 2*. $(8y - 2)x \div (z + y)$

a. *1*
c. *50*
b. *10*
d. *154*

17. Sunset Drive –in Movies is celebrating its anniversary by giving movie goers a discount. Instead of charging $6.50 per person, they are charging $6 per car plus $2 for each person in the car. Which equation shows how the total cost, *T*, relates to *p*, the number of people in the car?

a. *T = 6p*
c. *T = 2 + 6p*
b. *T = 6.5p*
d. *T = 6 + 2p*

18. Which equation describes the relationship between the *x* and *y* values in the table below?

X	***Y***
1	***2***
2	***6***
3	***10***
4	***14***

a. $y = x + 1$
c. $y = 2x$
b. $y = 4x - 2$
d. $y = 2x + 2$