1. Zane is an author who has written 7 more than $\frac{1}{2}$ the number of books that Kara has written. Zane has written 19 books. This relationship is represented by the equation below, where b is the number of books that Kara has written.

$$\frac{b}{2} + 7 = 19$$

How many books has Kara written?

A	6	**C**	24
B	13	**D**	52

2. A mourning dove has an average length of 12 inches. This is 2 inches less than twice the average length of a common ground-dove. This relationship is represented by the equation below, where c is the length of the common ground-dove.

$$2c - 2 = 12$$

What is the average length of the common ground-dove?

A	5 inches	**C**	20 inches
B	7 inches	**D**	28 inches

3. Keisha has 7 seashells in a box. She collected 18 more seashells on a beach. Keisha sorted all of the seashells into 5 equal groups. The equation below can be used to find s, the number of seashells in each group.

$$(7 + 18) \div s = 5$$

How many seashells are in each group?

A	30	**C**	5
B	25	**D**	3

4. Andrea earns a flat fee of $20 per day plus an additional x dollars for each sale she makes. Andrea made 10 sales last Saturday. The equation $10x + 20 = 80$ represents the amount, in dollars, that Andrea earned. How much does Andrea earn for each sale she makes?

A	$6	**C**	$10
B	$8	**D**	$12

5. Kaley observed shoppers entering the mall and recorded whether they were wearing flip-flops or some other type of shoe. There were 11 less than 2 times the number of people wearing flip-flops than any other type of shoe. There were 197 shoppers wearing flip-flops. The equation below can be used to find c, the number of customers Kaley observed wearing something other than flip-flops.

$$2c - 11 = 197$$

How many shoppers did Kaley observe wearing something other than flip-flops?

A   93
B   104

C   372
D   416

6. Mr. Denton told his students that 6 less than 4 times his age is 142. The equation that represents Mr. Denton's age, a, is shown below.

$$4a - 6 = 142$$

How old is Mr. Denton?

A   23
B   24

C   34
D   37

7. At work, Nick lifts packages that weigh 50 pounds each. A package consists of 2 small speakers, 2 large speakers, and a subwoofer. The small speakers and subwoofer together weigh 22 pounds. The large speakers weigh n pounds each, as expressed in this equation.

$$50 = 2n + 22$$

What is the weight of each large speaker?

A   14 pounds
B   20 pounds

C   25 pounds
D   36 pounds

8. David's family rented a boat for a flat fee of $20 plus an hourly rate, x. David's family rented the boat for 4 hours. The equation $4x + 20 = 60$ represents, in dollars, what David's family paid for renting the boat. What is the hourly rate for renting the boat?

A $5
B $10

C $15
D $20

9. Helga bought 9 vases of flowers. Each vase contains an equal number of flowers. She gave away 3 of these vases of flowers. There are a total of 72 flowers in the vases Helga has left. The equation below can be used to find f, the number of flowers in each vase.

$$(9 - 3) \times f = 72$$

How many flowers are in each of these vases?

A 12 C 6
B 24 D 8

10. Gavin has 90 shells in his collection. He put 30 of these shells in a display case. The rest of his shells he sorted into g groups. Each group has 15 shells. The equation below can be used to find the number of groups of shells Gavin has.

$$(90 - 30) \div g = 15$$

How many groups of shells does Gavin have?

A 45 C 6
B 24 D 4

11. Harley has 26 pints of strawberries in his store. He keeps 2 pints of strawberries for himself. Harley separates the remaining pints into 6 equal groups to sell. The equation below can be used to find p, the number of pints of strawberries in each group.

$$6p + 2 = 26$$

What is the number of pints of strawberries in each group?

A 13 C 7
B 12 D 4

12. When the perimeter of a rectangle is 36 units and the width is 4 units less than the length, the equation $4\ell - 8 = 36$ can be used to find ℓ, the length of the rectangle in units. What is the value of ℓ?

A 7 C 11
B 9 D 17

13. Rhett read $\frac{3}{5}$ of his book over the weekend. On Monday, he read 31 more pages. If he has read 214 pages so far, the equation below can be used to find p, the total number of pages in the book.

$$\frac{3}{5}p + 31 = 214$$

How many total pages are in Rhett's book?

A   110

B   147

C   305

D   408

14. Shane bought a pair of jeans on sale for 40% off the original price. After he used a $20 gift card, his total was $9.64. The original price of the jeans, j, can be calculated using the equation below.

$$\frac{3}{5}j - 20 = 9.64$$

What is the original price of the pair of jeans that Shane purchased?

A $49.40

B $88.92

C $17.27

D $17.78

15. At Central High School, 38 more than $\frac{1}{2}$ of the total number of students are female. There are 1,642 female students. The total number of students, s, at Central High can be found using the equation below.

$$\frac{1}{2}s + 38 = 1,642$$

How many students attend Central High School?

A   802

B   840

C   3,208

D   3,360

16. A soccer team drinks 24 bottles of water per practice, *p.* Each case of water contains 30 bottles. The expression below can be used to find the number of practices, *p*, that it will take the soccer team to drink *c* cases of water.

$$c = 24p \div 30$$

After how many practices will the soccer team drink 12 cases of water?

A   10
B   15
C   24
D   48

17. The price of a large avocado is $0.27 less than $\frac{1}{2}$ the price of a honeydew melon. If large avocados are on sale for $1.29 each, the equation below can be used to find h, the price for each honeydew melon.

$$\frac{1}{2}h - 0.27 = 1.29$$

What is the price for each honeydew melon?

A $0.78   C $2.04
B $1.56   D $3.12

18. Tyrell had $132. He bought 4 vases at a flower shop. He paid the same amount for each vase, tax included. Tyrell had $68 after he bought the vases. The equation below can be used to find *v*, the amount Tyrell paid for each vase.

$$132 - 4v = 68$$

How much did Tyrell pay for each vase?

A $16   C $50
B $17   D $64

19. Javier earns $7.50 per hour and works 20 hours per week. He wants to know how many weeks, w, he will need to work to save $1,200.00 for school. Using the equation below, how many weeks will he need to work to save up $1,200.00?

$$(7.50 \times 20)w = 1,200$$

A	3		**C**	16
B	8		**D**	60