

## Orientation Exercises 5

1. The formula  $A = \frac{x+y+z}{3}$  is used to find the average ( $A$ ) of three numbers  $x$ ,  $y$ , and  $z$ . What is the average of 86, 113, and 119?
- A.  $102\frac{2}{3}$       D. 110  
**B.** 106      E. 160  
 C. 108

2. In the formula  $C = \frac{5}{9}(F - 32)$ , find  $C$  if  $F = 68$ .
- A. 1      D. 180  
 B. 9      E. None of the above  
**C.** 20

3. Solve for  $x$ :  $x + \frac{4}{3} = \frac{-20}{3}$
- A. -72      D.  $\frac{16}{3}$   
 B.  $-\frac{46}{3}$       E. 8  
**C.** -8
- $3x + 4 = -20$   
 $3x = -24$   
 $x = -8$

4. Solve for  $s$ :  $\frac{s}{4} - \frac{7}{2} = 4$
- A. 11      **D.** 30  
 B. 14      E. None of the above  
 C. 16
- $s - 14 = 16$   
 $s = 30$

5. What is the larger solution to the equation  $2x^2 + 9x - 5 = 0$ ?
- $\frac{(2x+10)(2x-1)}{2}$   
 $\frac{2(x+5)(2x-1)}{2}$   
 $(x+5)(2x-1)$   
 $x = -5, \frac{1}{2}$
- A. -5      D. 2  
 B.  $-\frac{1}{2}$       E. 5  
**C.**  $\frac{1}{2}$

6. Which of the following is a factorization of the polynomial  $2x^2 + x - 6$ ?
- A.  $2(x^2 + x - 3)$   
 B.  $(2x + 2)(x - 3)$   
 C.  $(2x + 3)(x - 2)$   
**D.**  $(2x - 3)(x + 2)$   
 E.  $(2x + 6)(x - 1)$
- $\frac{(2x+4)(2x-3)}{2}$   
 $\frac{2(x+2)(2x-3)}{2}$

7. David received three grades of 85, 92, and 100 on his first 3 tests. What must he get on the fourth test to get a 90 average?
- A.** 83  
 B. 87  
 C. 90  
 D. 95  
 E. None of the above
- $\frac{85+92+100+x}{4} = 90$   
 $277+x = 360$   
 $x = 83$

8. Heidi must divide 870 bales of hay between three stables so that the second has 90 bales more than the first, but 150 less than the third. How many bales does the third stable receive?
- A. 180  
 B. 270  
 C. 310  
**D.** 420  
 E. None of the above
- $1^{st} \quad 2^{nd} \quad 3^{rd}$   
 $x-90 \quad x \quad x+150$   
 $3x + 60 = 870$   
 $3x = 810$   
 $x = 270$   
 $+150$

Use the table below to answer question 9.

$x$	-3	0	1	3
$f(x)$	12	0	0	6
$g(x)$	39	3	7	39
$h(x)$	-14	1	-2	-20

9.  $2 \times f(3) - 3 \times g(1) + h(-3) =$
- A. 12  
 B. -39  
**C.** -23  
 D. 6  
 E. -7
- $2 \times 6 - 3 \times 7 - 14 = 12 - 21 - 14 = -23$

10. The number of chirps per minute made by a cricket is a function of the temperature ( $T$ ). The function  $f(T) = 4(T - 40)$ . How many chirps would you expect to hear when the temperature is  $90^\circ$ ?
- A. 60  
 B. 20  
 C. 240  
 D. 40  
**E.** 200
- $f = 4(90 - 40) = 4(50) = 200$