Exam 1 Chapter 1 Preparation 1.1 to 1.8
Winter 2010 V01

Name_____

Perform the indicated operation or operations.

1) 5.4 – (–3) 1) _____

2) –13 + 19 + (–21) + 10 2) _____

3) 8(–29) 3) _____

4) $\left(-\frac{7}{11}\right) \div \left(-\frac{7}{2}\right)$ 4) _____

5) $\left(2\frac{1}{5}\right)(-10)$ 5) _____

6) $-40 \div 8$ 6) _____

7) $-4 - (8 - 15)$ 7) _____

8) $(-5)(-4) \div (8 - 12)$ 8) _____

9) $(6 - 9)^2(3 - 5)^3$ 9) _____

10) $\frac{8(-4) - 2(4)}{-2(8 - 3)}$ 10) _____

Simplify the algebraic expression.

11) $7x - (3x - 4)$ 11) _____

12) $7(3x - 10y) - (4x - 7y)$ 12) _____

13) $5 - 2[2 - (5x - 1)]$ 13) _____

Provide an appropriate response.

14) List all the rational numbers in this set. 14) _____

$$\left\{11, \sqrt{6}, -17, 0, \pi, \sqrt{4}, \frac{22}{7}, 0.05\right\}$$

15) Insert either $<$ or $>$ in the area between the pair of numbers to make a true statement: -71 ____ -87. 15) _____

16) Find the absolute value: $|-10.3|$. 16) _____

Evaluate the algebraic expression for the given value of the variable.

17) $8(x - 7)$; $x = 3$ 17) _____

18) $x^2 - 6x$; $x = -10$ 18) _____

Provide an appropriate response.

19) Use the commutative property of addition to write an equivalent algebraic expression: $6(x + 4)$. 19) _____

20) Use the associative property of multiplication to rewrite $-3(5x)$. Then simplify the expression. 20) _____

21) Use the distributive property to rewrite without parentheses: $6(3x - 1 + 10y)$ 21) _____

Solve.

22) What is the difference in elevation between a plane flying 16,400 feet above sea level and a submarine traveling 670 feet below sea level? 22) _____

Determine whether the given number is a solution of the equation.

23) $\frac{1}{4}(x + 3) = \frac{1}{24}x + \frac{3}{4}; \ -4$ 23) _____

24) $8(x + 5) - 13 = 9x; \ 27$ 24) _____

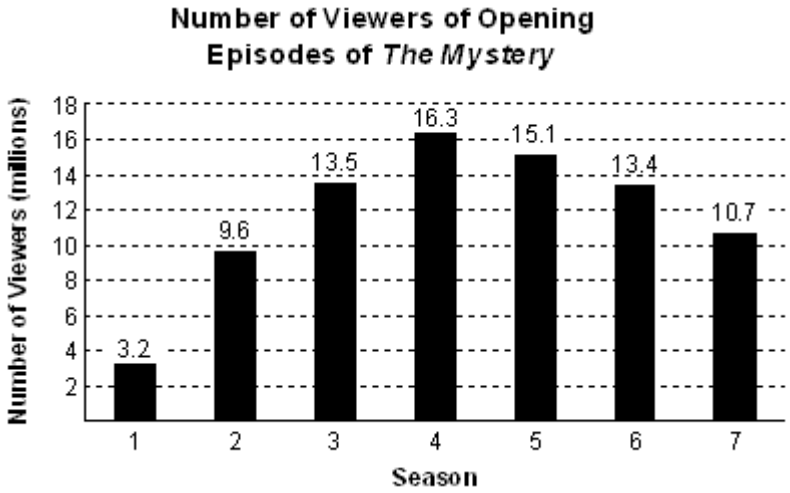
Translate from English to an algebraic expression or equation, whichever is appropriate. Let the variable x represent the number.

25) $\frac{1}{3}$ of a number, decreased by 4, is 36. 25) _____

26) Six subtracted from the product of 8 and 2 less than a number 26) _____

Solve.

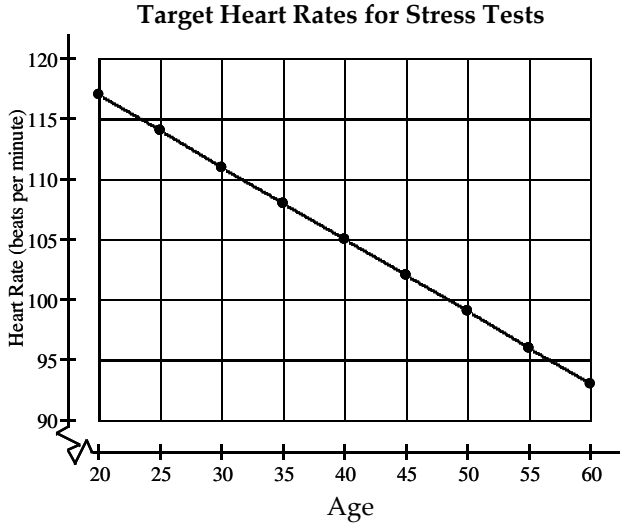
27) The Mystery TV show demonstrated just how complex and involving TV storytelling could be. The bar graph shows the number of viewers in the series opening episodes. 27) _____



The number of viewers of the opening episodes of The Mystery, V, in millions, can be described by the

mathematical model $V = -n^2 + 9n - 5$, where n is the season number. Use the formula to find the number of viewers of the opening episode of season 6. Does the mathematical model underestimate or overestimate the actual number of viewers shown by the bar graph? By how many million?

28) The line graph shows the target heart rate, in beats per minute, of people of various ages when performing an exercise stress test. 28) _____



Use the line graph to estimate the target heart rate for a 20–year–old taking the test.

29) The formula $H = \frac{3}{5}(215 - a)$ gives the target heart rate, H, in beats per minute, on a stress test for a person of age a. Use this formula to find the target heart rate for a 35–year–old. 29) _____

1) 8.4
2) –5
3) –232
4) $\frac{2}{11}$
5) – 22
6) –5
7) 3
8) –5
9) –72
10) 4
11) 4x + 4
12) 17x – 63y
13) 10x – 1
14) 11, –17, 0, $\sqrt{4}$, $\frac{22}{7}$, 0.05
15) >
16) 10.3
17) –32
18) 160
19) 6(4 + x)
20) (–3 • 5)x = –15x
21) 18x – 6 + 60y
22) 17,070 feet
23) not a solution
24) solution
25) $\frac{1}{3}$x – 4 = 36
26) 8(x – 2) – 6
27) 13 million; underestimates by 0.4 million
28) 117 beats per minute
29) 108 beats per minute