

Practice Exercise 5

1. Using the formula $P = 2(l + w)$, find P if $l = 40$ and $w = 20$.

A. 60
B. 80
C. 100
D. 120
E. 140

$$= 2(40 + 20)$$

$$= 2(60)$$

2. In the formula $S = \frac{\pi^5}{2}(a + l)$, find S if $n = 5$, $a = 2$, and $l = 18$.

A. 8
B. $12\frac{1}{2}$
C. $22\frac{1}{2}$
D. 25
E. 50

$$\frac{5}{2}(20) =$$

3. If $A = \frac{1}{2}h(b + c)$, find A if $h = 10$, $b = 8$, and $c = 12$.

A. 25
B. 50
C. 100
D. 200
E. 400

4. The formula $c = 75 + 30(n - 5)$ is used to find the cost, c , of a taxi ride where n represents the number of $\frac{1}{5}$ miles of the ride. Find the cost of a taxi ride of $2\frac{2}{5}$ miles.

A. \$2.10
B. \$2.85
C. \$4.35
D. \$7.35
E. None of the above

$$2\frac{2}{5} = \frac{12}{5}$$

$$n = 12$$

$$c = 75 + 30(7)$$

$$c = 75 + 210$$

$$c = 285$$

5. Andy was born on his mother's 32nd birthday. Which expression best represents Andy's mother's age when Andy is n years old?

A. $32 - n$
B. $32n$
C. $32 + n$
D. $\frac{32}{n}$
E. $32(n + 1)$

6. If $3a - 2b = 8$ and $a + 3b = 7$, what is the value of $4a + b$?

A. -13
B. -11
C. 15
D. 1
E. 9

$$3a - 2b = 8$$

$$a + 3b = 7$$

$$4a + b = 15$$

7. Solve for n : $4 - \frac{3}{n} = \frac{5}{2}$

A. $\frac{1}{2}$
B. $\frac{2}{3}$
C. $\frac{3}{4}$
D. 2
E. None of the above

$$2n: 4 - \frac{3}{n} = \frac{5}{2}$$

$$8n - 6 = 5n$$

$$-6 = -3n$$

$$2 = n$$

8. Solve for a : $1 + \frac{1}{a} = \frac{2}{a} + 2$

A. -8
B. -4
C. -1
D. 1
E. No solution

$$a: a: a: \frac{1}{a} = \frac{2}{a} + 2$$

$$a + 1 = 2 + 2a$$

$$1 = 2 + a$$

$$-1 = a$$

9. John's test scores for this marking period are: 72, 84, 86, and 70. What score must John get on his next test to maintain an average of 80?

A. 80
B. 78
C. 88
D. 84
E. 79

$$\frac{72 + 84 + 86 + 70 + x}{5} = 80$$

$$312 + x = 400$$

$$x = 88$$

10. Which of the following is a factorization of the polynomial $x^2 - 7x - 18$?

A. $(x - 18)(x + 1)$
B. $(x + 9)(x - 2)$
C. $(x - 9)(x - 2)$
D. $(x - 9)(x + 2)$
E. $(x - 6)(x - 3)$

$$(x - 9)(x + 2)$$

11. Which of the following is not equal to the other three?

- A. 25% of 80 = 20
- B. $\frac{1}{5}$ of 100 = 20
- C. $40 \div 0.5 = 40 \cdot 2 = 80$
- D. $2\sqrt{100} = 2 \cdot 10 = 20$
- E. 20 = 20

12. Penny can knit 4 rows of a sweater in 5 minutes. How many *hours* will it take her to knit 300 rows?

- A. 4
 - B. $6\frac{1}{4}$ $\frac{4r}{5m} = \frac{300r}{x}$
 - C. $12\frac{1}{2}$
 - D. 240
 - E. 375
- $4x = 1500$
 $x = 375$ minutes
 $375 (60) = 6.25$

13. Consider the following list of new car prices:

Lexus	\$46,500	Eclipse	\$27,900
Infiniti	\$37,800	Jeep	\$21,300
Honda	\$18,900	Toyota	\$19,500

How much more is the Lexus than the mean of the other five cars?

- A. \$8,700
 - B. \$17,850
 - C. \$24,210
 - D. \$21,420
 - E. \$13,750
- Mean = $\frac{\$5400}{5} = \frac{125400}{5} = 25080$
 Lexus - mean = 21,420

14. Six times a number is 12 less than 10 times the number. What is the number?

- A. 3
 - B. 6
 - C. 12
 - D. 18
 - E. 24
- 6n = 10n - 12
 $-4n = -12$
 $n = 3$