Name: _____ Block: _____ Date: _____

Patterns and Sequences

In-Class Practice

Describe the relationship between the terms in each arithmetic sequence. Then write the next three terms in each sequence.

1. 7, 19, 31, 43, …

2. 8, 18, 28, 38, …

3. 25, 26, 27, 28, …

4. 0.4, 0.8, 1.2, 1.6, …

5. 3.7, 3.7, 3.7, 3.7, …

6. 5.1, 6.2, 7.3, 8.4, …

7. 17, 31, 45, 59, …

8. 30, 50, 70, 90, …

9. 14, 41, 68, 95, …

NUMBER SENSE Find the 40th term in each arithmetic sequence.

10. 4, 8, 12, 16, …

11. 13, 26, 39, 52, …

12. 6, 12, 18, 24, …

13. GEOMETRY The lengths of the sides of a 6-sided polygon are an arithmetic sequence. The length of the shortest side is 3 meters. If the length of the next longer side is 5 meters, what is the length of the longest side?

14. FREE FALLING OBJECT A free falling object increases speed by a little over 22 miles per hour each second. The arithmetic sequence 22, 44, 66, …, represents the speed after each second, in miles per hour, of a dropped object. How fast is a rock falling after 8 seconds if it is dropped over the side of a cliff?

NAME _____ DATE _____ PERIOD _____

Lesson 1 Practice

Algebraic Expressions

Evaluate each expression if $r = 5$, $s = 2$, $t = 7$, and $u = 1$.

1. $s + 7$

2. $9 - u$

3. $3t + 1$

4. $5r - 4$

5. $t - s$

6. $u + r$

7. $11t - 7$

8. $6 + 3u$

9. $4r - 10s$

10. $3u^2$

11. $2t^2 - 18$

12. $r^2 + 8$

13. $\frac{s}{2}$

14. $\frac{30}{r}$

15. $\frac{(3+u)^2}{8}$

Evaluate each expression if $a = 4.1$, $b = 5.7$, and $c = 0.3$.

16. $a + b - c$

17. $10 - (a + b)$

18. $b - c + 2$

19. **MOON** The expression $\frac{w}{6}$ gives the weight of an object on the Moon in pounds with a weight of w pounds on Earth. What is the weight of a space suit on the Moon if the space suit weighs 178.2 pounds on Earth?

20. Complete the table.

Pounds (p)	**Ounces ($16p$)**
1	16
2	32
3	
4	
5	