Name

Class

Date

Arithmetic Sequences

**Determine whether each sequence is arithmetic. If so, identify the common difference.**

**1.** 2, 3, 5, 8, … **2.** 0, −3, −6, −9, …

**3.** 0.9, 0.5, 0.1, −0.3, … **4.** 3, 8, 13, 18, …

**5.** 14, −15, −44, −73, … **6.** 3.2, 3.5, 3.8, 4.1, …

**Find the 43rd term of each sequence.**

**7.** 12, 14, 16, 18, … **8.** 13.1, 3.1, −6.9, −16.9, …

**9.** 19.5, 19.9, 20.3, 20.7, … **10.** 27, 24, 21, 18, …

**11.** 45, 48, 51, 54, … **12. −**0.073, −0.081, −0.089, …

**Find the missing term of each arithmetic sequence.**

**13.** … 14, , 15, … **14.** … −45,  , −39, … **15.** … −5,  , −2, …

**16.** … −45,  , −12, … **17.** −2,  , 456, … **18.** … 34,  , 345, …

**19**. A teacher donates the same amount of money each year to help protect the rainforest. At the end of the second year, she has donated enough money to protect 8 acres. At the end of the third year, she has donated enough money to protect 12 acres. How many acres will the teacher’s donations protect at the end of the tenth year?

**20**. Your cousin opened a bank account with a deposit of $256 dollars. After one week, she had$280 in her account. After two weeks, she had $304, and after three weeks she had $328. If this pattern continues, how much money will your cousin have in her account after 18 weeks?

**Write an explicit and a recursive formula for each sequence.**

**21**. $2, 4, 6, 8, 10, …$ **22.** $-32, -20, -8, 4, 16, … $

**23.** $0,\frac{1}{8},\frac{1}{4},\frac{3}{8}, … $ **24**. $1,1\frac{1}{3}, 1\frac{2}{3}, 2, … $

**Find the arithmetic mean *an* of the given terms.**

**26.** *an* – 1 = 5, *an* + 1 = 11 **27.** *an –* 1 = 17, *an* + 1 = 3

**28.** *an –* 1 = −8, *an* + 1 = –9 **29.** *an-1* = −0.6, *an*+1 = 3.8