PreCalculus Name_____ ID: 3

Arithmetic/Geometric Series Practice

Date_____ Period____

Evaluate each series (a.k.a. "Find the sum").

1) 21, 24, 27, 30, 33

2) 9, 19, 29, 39

Evaluate the Arithmetic series.

3) $a_1 = -3,\ a_n = -111,\ n = 13$

4) $a_1 = 20,\ a_n = 223,\ n = 30$

5) $a_1 = 31,\ a_n = 91,\ n = 7$

6) $a_1 = 6,\ a_n = 110,\ n = 14$

7) $a_1 = 20,\ d = 10,\ n = 15$

8) $a_1 = 3,\ d = 7,\ n = 6$

9) $a_1 = 33,\ d = 7,\ n = 8$

10) $a_1 = 12,\ d = 3,\ n = 7$

11) $(-5) + (-2) + 1 + 4...,\ n = 16$

12) $24 + 34 + 44 + 54...,\ n = 20$

13) $29 + 39 + 49 + 59..., \ n = 8$

14) $9 + 11 + 13 + 15..., \ n = 16$

Evaluate the series.

15) $4 - 12 + 36 - 108..., \ n = 6$

16) $1 - 3 + 9 - 27..., \ n = 8$

Determine if each geometric series converges or diverges.

17) $a_1 = 1, \ r = 4$

18) $a_1 = -3, \ r = -4$

19) $2 - 6 + 18 - 54...$

20) $1 + 2 + 4 + 8...$

Evaluate each infinite geometric series.

21) $a_1 = -1, \ r = -4$

22) $a_1 = 16, \ r = \frac{1}{2}$

23) $\frac{1}{5} - \frac{1}{15} + \frac{1}{45} - \frac{1}{135}...$

24) $\frac{5}{3} - \frac{5}{6} + \frac{5}{12} - \frac{5}{24}...$

PreCalculus Name_____ ID: 3

Arithmetic/Geometric Series Practice

Date_____ Period____

Evaluate each series (a.k.a. "Find the sum").

1) 21, 24, 27, 30, 33

135

2) 9, 19, 29, 39

96

Evaluate the Arithmetic series.

3) $a_1 = -3,\ a_n = -111,\ n = 13$

−741

4) $a_1 = 20,\ a_n = 223,\ n = 30$

3645

5) $a_1 = 31,\ a_n = 91,\ n = 7$

427

6) $a_1 = 6,\ a_n = 110,\ n = 14$

812

7) $a_1 = 20,\ d = 10,\ n = 15$

1350

8) $a_1 = 3,\ d = 7,\ n = 6$

123

9) $a_1 = 33,\ d = 7,\ n = 8$

460

10) $a_1 = 12,\ d = 3,\ n = 7$

147

11) $(-5) + (-2) + 1 + 4\ldots,\ n = 16$

280

12) $24 + 34 + 44 + 54\ldots,\ n = 20$

2380

13) $29 + 39 + 49 + 59..., \ n = 8$

512

14) $9 + 11 + 13 + 15..., \ n = 16$

384

Evaluate the series.

15) $4 - 12 + 36 - 108..., \ n = 6$

−728

16) $1 - 3 + 9 - 27..., \ n = 8$

−1640

Determine if each geometric series converges or diverges.

17) $a_1 = 1, \ r = 4$

Diverges

18) $a_1 = -3, \ r = -4$

Diverges

19) $2 - 6 + 18 - 54...$

Diverges

20) $1 + 2 + 4 + 8...$

Diverges

Evaluate each infinite geometric series.

21) $a_1 = -1, \ r = -4$

No sum

22) $a_1 = 16, \ r = \frac{1}{2}$

32

23) $\frac{1}{5} - \frac{1}{15} + \frac{1}{45} - \frac{1}{135}...$

$\frac{3}{20}$

24) $\frac{5}{3} - \frac{5}{6} + \frac{5}{12} - \frac{5}{24}...$

$\frac{10}{9}$

