

9.1--9.3 Review

Determine if the sequence is arithmetic. If it is, find the common difference, the 52nd term, and the explicit formula.

1) $-2, 0, 3, 7, \dots$

2) $-22, -32, -42, -52, \dots$

Given the explicit formula for an arithmetic sequence find the first five terms and the 52nd term.

3) $a_n = 167 - 200n$

4) $a_n = -20 + 4n$

Given the first term and the common difference of an arithmetic sequence find the explicit formula.

5) $a_1 = -16, d = 4$

6) $a_1 = 12, d = -20$

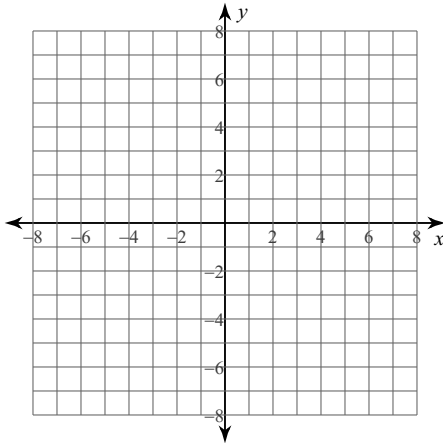
Given a term in an arithmetic sequence and the common difference find the first five terms and the 52nd term.

7) $a_{33} = 3214, d = 100$

8) $a_{17} = -53, d = -2$

For the given function find the domain, range, x intercept(s), y intercept, intervals of increase or decrease, maximum or minimum and the end behavior. Describe the transformations from the parent $y = x^2$.

9) $y = -x^2 - 6$



Determine if the equation or relation represents direct variation. If so, give the constant of variation. Explain why it does or does not represent direct variation.

10) $y = 4x + 3$

11) $2y = -3x$

12) $x: 10 \quad 5 \quad 2$
 $y: 12 \quad 7 \quad 4$

Solve the problem.

13) The number of miles driven varies directly with the number of gallons of gas used. Erin drove 297 miles on 9 gallons of gas. How far would she be able to drive on 14 gallons of gas?

14) The value of y varies directly with x and $y = \frac{1}{2}$ when $x = 5$. Find y when $x = 30$.

Answers to 9.1--9.3 Review

1) Not arithmetic

2) Common Difference: $d = -10$

$$a_{52} = -532$$

$$\text{Explicit: } a_n = -12 - 10n$$

3) First Five Terms: $-33, -233, -433, -633, -833$

$$a_{52} = -10233$$

5) $a_n = -20 + 4n$

6) $a_n = 32 - 20n$

8) First Five Terms: $-21, -23, -25, -27, -29$

$$a_{52} = -123$$

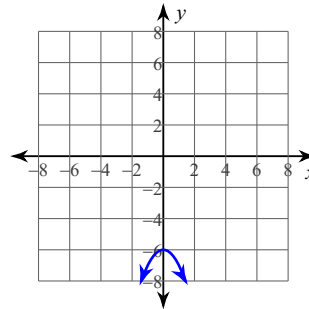
4) First Five Terms: $-16, -12, -8, -4, 0$

$$a_{52} = 188$$

7) First Five Terms: $14, 114, 214, 314, 414$

$$a_{52} = 5114$$

9)



Vertex: $(0, -6)$
Axis of Sym.: $x = 0$

10) No, cannot have a # added to it

12) yes, it has a constant value of 1

11) yes, it has just a constant and no # added t it

13) 462

14) 3