

**Principles of Mathematics 11 – Module A**  
**Calculating the  $x$ - and  $y$ -intercepts**

Find the  $x$ - and  $y$ -intercepts algebraically, if they exist.

1.  $y = (x - 3)^2 - 4$

2.  $y = (x - 1)^2 - 4$

$y$ -intercept: \_\_\_\_\_  
 $x$ -intercept(s): \_\_\_\_\_

$y$ -intercept: \_\_\_\_\_  
 $x$ -intercept(s): \_\_\_\_\_

3.  $y = (x + 3)^2 - 49$

4.  $y = (x + 3)^2 - 64$

$y$ -intercept: \_\_\_\_\_  
 $x$ -intercept(s): \_\_\_\_\_

$y$ -intercept: \_\_\_\_\_  
 $x$ -intercept(s): \_\_\_\_\_

5.  $y = (x - 2)^2$

6.  $y = (x + 5)^2$

$y$ -intercept: \_\_\_\_\_  
 $x$ -intercept(s): \_\_\_\_\_

$y$ -intercept: \_\_\_\_\_  
 $x$ -intercept(s): \_\_\_\_\_

7.  $y = (x - 3)^2 - 5$

8.  $y = (x - 2)^2 - 7$

$y$ -intercept: \_\_\_\_\_  
 $x$ -intercept(s): \_\_\_\_\_

$y$ -intercept: \_\_\_\_\_  
 $x$ -intercept(s): \_\_\_\_\_

$$= (x-2)^2 + 7$$

$$10. y = (x+1)^2 + 3$$

y-intercept: \_\_\_\_\_  
x-intercept(s): \_\_\_\_\_

y-intercept: \_\_\_\_\_  
x-intercept(s): \_\_\_\_\_

$$= 2(x-3)^2 - 72$$

$$12. y = 3(x-2)^2 - 27$$

y-intercept: \_\_\_\_\_  
x-intercept(s): \_\_\_\_\_

y-intercept: \_\_\_\_\_  
x-intercept(s): \_\_\_\_\_

$$= -(x+1)^2 + 4$$

$$14. y = -(x+2)^2 + 36$$

y-intercept: \_\_\_\_\_  
x-intercept(s): \_\_\_\_\_

y-intercept: \_\_\_\_\_  
x-intercept(s): \_\_\_\_\_

$$= x^2 + 2x + 1$$

$$16. y = x^2 + 6x + 9$$

y-intercept: \_\_\_\_\_  
x-intercept(s): \_\_\_\_\_

y-intercept: \_\_\_\_\_  
x-intercept(s): \_\_\_\_\_