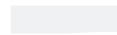# Activity One

1) Courtney has 4 boxes of colored pencils plus 6 more colored pencils. Each box has **P** pencils. An equation showing the total number of pencils she has would be

C = 4P + 6

a) Find the number of pencils that Courtney has if P = 15

Show Your Work

Answer: _____

b) Find the number of pencils that Courtney has if P = 12

Show Your Work

Answer: _____

c) Two equations are shown below.

x + 2 = 6

x + 2 + y = 9

If these equations are true, what is the value of y?

Answer: _____

Activity Two

2a) Which number, when placed in the box, makes the following number sentence true? (Remember your **order of operations**.)

$14 - 5 \times 2 + 12 \div 4 = \boxed{}$

Show Your Work

Answer: _____

b) **Examine the input-output table shown below.**

Input	Output
4	10
5	13
6	16
7	19

Which of these rules describes this data?

i) Add 5, add 1   ii) Add 7, subtract 1

iii) Multiply by 2, add 2   iv) Multiply by 3, subtract 2

c) **The same number is added to each term in the following pattern to get the value for the next term. Below are the 6th, 7th and 8th numbers in this pattern.**

. . . 52, 57, 62 . . .

What are the 3rd, 4th and 5th numbers in this pattern?

i) 43, 46, 49   ii) 37, 42, 47   iii) 40, 44, 48   iv) 38, 43, 47
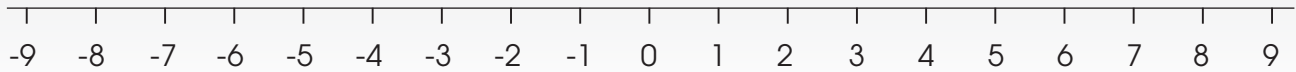
Activity Three
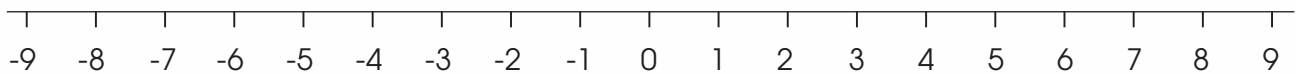
3a) Solve.

i) $2 + x = 6$ ii) $3x + 2 = 11$ iii) $4x - 2x + 6 - 1 = 11 + 2$

b)   Graph each on the accompanying number line.

i) a = - 5

```
-9  -8  -7  -6  -5  -4  -3  -2  -1  0  1  2  3  4  5  6  7  8  9
```

ii) b < 6

```
-9  -8  -7  -6  -5  -4  -3  -2  -1  0  1  2  3  4  5  6  7  8  9
```

c)   Because this summer has been unusually hot, Isaac's parents decide to buy an air conditioner for his bedroom. The air conditioner costs $250. Each day that it runs it costs $2 in electricity. An expression showing the total cost would be C = 250 + 2x, where x represents the number of days the air conditioner runs.

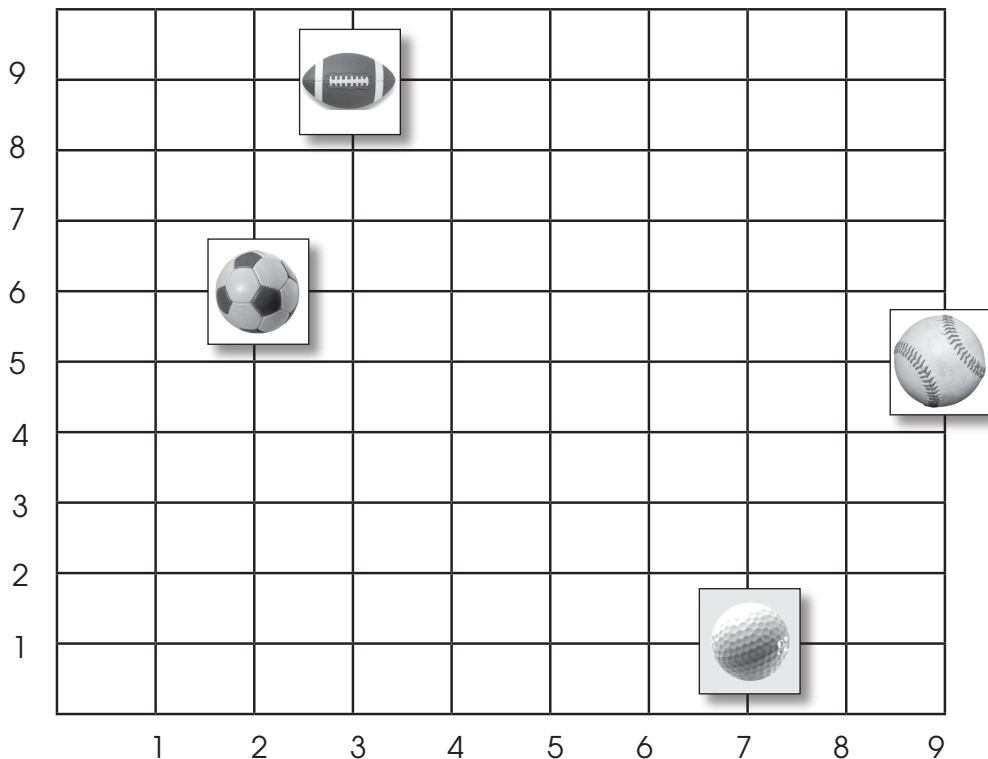i)   How much would it cost the family if Isaac runs the air conditioner for 12 days?

_____

_____

ii)   How much would it cost the family if Isaac runs the air conditioner for 20 days?

_____

_____

Activity Four

4a) **Indicate the coordinates for the following objects.**

Coordinates

🏈 _____

⚽ _____

⚾ _____

🏌️ _____

Activity Five

5a) **Which number best completes this pattern?**

36, 33, 30, 27 …

i) 24   ii) 21   iii) 20   iv) 22

b) **Look at the following three equations.**

$x + 4 = 7$
$y + x = 5$
$y + x + z = 10$

What is the value of z?

Show Your Work

Answer: _____

c) **Expand and simplify these expressions.**
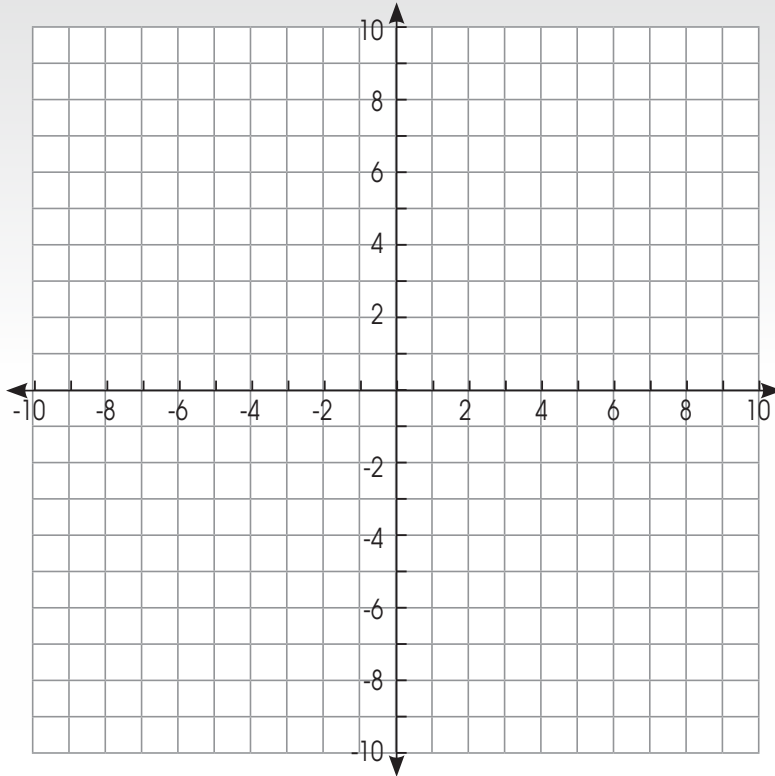
i) $2(3x - 2) - 2 =$

ii) $3(4y - 1) - 9 =$

iii) $1z(3 - 1) - 4 =$

Activity Six

6a) Plot the following coordinates on the accompanying grid:
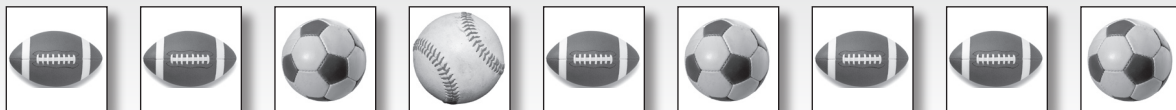
A = (6, 4)

B = (8, -7)

C = (-3, 10)

D = (-2, -9)

b) **Rachel types essays for college students. She charges a set fee of $10 per essay plus $2 per page. Which of the following equations show how much Rachel charges?**
(p=number of pages)

i) C = 2 + 10 + p   ii) C = 2 + 10p   iii) C = 10 + 2p   iv) C = 2p + 10p

c) **In the following pattern, what probably comes next?**

i)   ii)   iii)

6.

a)

(Points A, B, C, D plotted on coordinate grid)

b) iii) C = 10 + 2p

c) ii)

6A

5.

a) i) 24

b) x + 4 = 7
~ x = 3
y + x = 5
~ y = 2
y + x + z = 10
~ z = 5

c) i) 6x – 4 – 2 =
6x = 6
x = 1

ii) 12y – 3 – 9 =
12y = 12
y = 1

iii) 3z – 1z – 4 =
2z = 4
z = 2

5A

4.

3,9

2,6

9,5

7,1

4A

3.

a) i) x = 6 – 2
x = 4
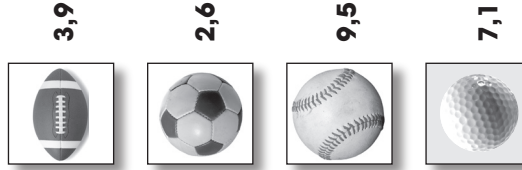
ii) 3x = 11 – 2
3x = 9
x = 3

iii) 2x + 5 = 13
2x = 8
x = 4

b) i) Label -5 on the number line.

ii) Label all the numbers from – 9 to 5.

c) i) C = 250 + 2(12)
C = 250 + 24
C = $274

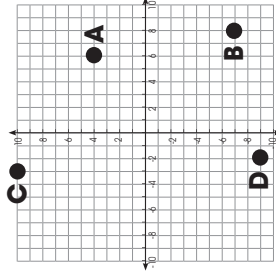ii) C = 250 + 2(20)
C = 250 + 40
C = $290

3A

2.

a) 14 – 5 * 2 + 12 / 4 = 7

b) iv) Multiply by 3, subtract 2

c) ii) 37, 42, 47

2A

1.

a) C = 4P + 6
C = 4(15) + 6
C = 60 + 6
C = 66

b) C = 4P + 6
C = 4(12) + 6
C = 48 + 6
C = 54

c) y = 3

1A