

4.1 Worksheet

1. Plot the ordered pairs

$A (-2,5)$

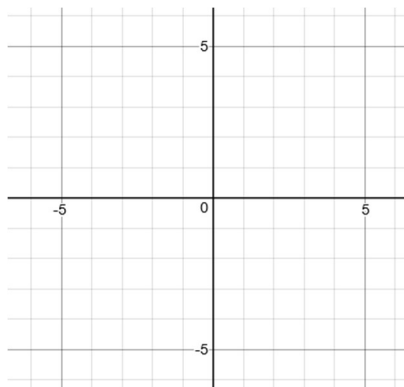
$B (-1,-6)$

$C (4,-3)$

$D (4,0)$

$E (0,-5)$

$F (5,3)$



2. Determine the domain and range for each relation

a) $\{(-3,4), (-2,4), (0,-2), (1,1)\}$

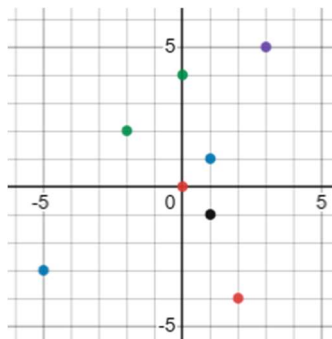
b) $\{(1,-2), (2,1), (1,2), (3,1)\}$

3. Convert each relation from its current representation to the one indicated.

a) ordered pairs

| x | y |
|-----|-----|
| -5 | 12 |
| -1 | -1 |
| 0 | 8 |
| 1 | 6 |
| 4 | 10 |

b) table of values



| x | y |
|-----|-----|
| | |
| | |
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| | |

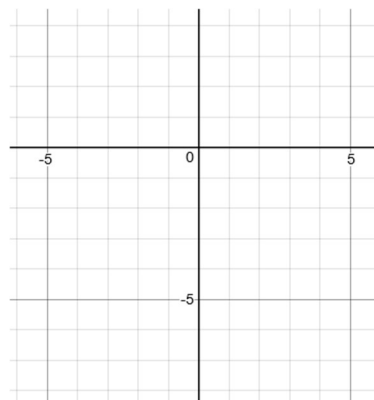
4. Represent the relation with a table of values, ordered pairs, and graphically.

i) table of values

| x | y |
|-----|-----|
| -1 | |
| 0 | |
| 3 | |

$y = 2x - 5$
ii) ordered pairs

iii) graphically



5. Indicate which relations are linear.

a) $y = 5$ _____ b) $y = x^2 + 4x + 3$ _____ c) $-x + y = 2$ _____

d) $y = 3\sqrt{x}$ _____ e) $y = \frac{1}{2}x + 6$ _____

6. Which table of values represents a linear relation?

a)

| x | y |
|-----|-----|
| 0 | -10 |
| 1 | 0 |
| 2 | 10 |
| 3 | 20 |
| 4 | 30 |
| 5 | 40 |

b)

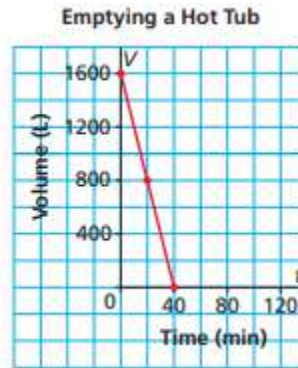
| x | y |
|-----|-----|
| 0 | 2 |
| 1 | 4 |
| 2 | 8 |
| 3 | 16 |
| 4 | 32 |
| 5 | 64 |

7. For each relation, indicate the dependent variable and the independent variable.

a)

| n | A |
|-----|-----|
| 0 | 1 |
| 1 | 3 |
| 2 | 9 |
| 3 | 27 |
| 4 | 81 |

b)



c) area of a circle : $A = \pi r^2$

8. Simplify each expression

a) $7x + 5 - x - 9$

b) $3x + 2(x + y)$

c) $4x - 3(x - y)$

d) $-4a - 3b - (2a + 5b)$

e) $10 - 3(2a + 3) + 4(a - 6)$

f) $(x + 7) + 5(x + 3) + 8(2x - 1)$

9. Determine the value of y

a) $y = 0.4x$ when $x = 25$

b) $y = \frac{x}{20}$ when $x = 75$

c) $y = 4x - 7$ when $x = -8$

d) $y = 5 - 3x$ when $x = -4$

10. Solve each equation

a) $3x - 4 = 8$

b) $11 = 3r - 4$

c) $6 - 2x = -2$