**4UIQM: Element 2: Algebraic methods**

**Solutions to activities**

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| **Activity 1** | 1. 70x +25
2. x = variable, 25 = constant and 70 = coefficient
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| **Activity 2** | 1. $5a^{5}b^{2}c$ and $2b^{2}a^{5}c$
2. $3x^{3}y$ and $3yx^{3}$

$5xy$ and $3xy$ |
| **Activity 3** | 1. 6
2. $72x^{2}y^{3}z^{2}$
3. $45t^{7}$
4. $4u^{5}\left(u+4\right)$
5. $\frac{1}{\sqrt{x}}+xy^{4}z$
 |
| **Activity 4** | $$1+2x^{2}y-3z^{3}=36xyz-xy-\frac{5x}{y}-5y$$ |
| **Activity 5** | 1. u = -4
2. x = -5
3. t = $5\frac{2}{3}$
 |
| **Activity 6** | u= 13, v = -11 |
| **Activity 7** | 1. x = 3, y = 7
2. x = 5, y = 2
3. x = 6, y = 3
4. x = 4, y = -2
 |
| **Activity 8** | x = 24, y = 12 |
| **Activity 9** | Adult’s meal $18Child’s meal $10 |
| **Activity 10** | 1. $x=-\frac{1}{2}$ and 3
2. t = 1 and $1\frac{1}{4}$
3. x = -2 and -4
4. y = -1 and $\frac{2}{3}$
 |
| **Activity 11** | 7.74 feet |
| **Activity 12** | 1. x = 3.19 and -2.19
2. x = 1.15 and -0.65
3. x = 0.28 and -1.61
4. x = 2.41 and -0.41
 |
| **Activity 13** | 1. Straight line
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| **Activity 14** | 1. Gradient = $-\frac{1}{3}$ , y-intercept = $-\frac{2}{3}$
2. Gradient = -2 , y-intercept = 4
3. Gradient = $-\frac{5}{3}$ , y-intercept = 3
4. Gradient = $\frac{1}{2}$ , y-intercept = -2
 |
| **Activity 15** | 1. $y=\frac{1}{6}x-5$
2. $y=0.7x+1$
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| **Activity 16** | 1. y = -3x + 9, y-intercept = 9
2. y = -2x + 4, y-intercept = 4
3. y = - x – 2, y-intercept = -2
4. y = $\frac{1}{2}x+2$ , y-intercept = 2
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