Algebra sequencing activities

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|  | ***Multiplying numbers and letters:*** |
| **Sequencing:** | Students are given worked examples which have been split up. They need to put them back in order.  For these ones there is the problem, the working, the answer. Three parts, and there are fifteen problems grouped together. |
| **How to:**  *(Use*  *Multiplying - 20)* | * Students need to group together the three parts for each problem. Once they have the three parts, they should put them in the correct order to make a correctly worked problem. * Start at problem #1 and work through to #15. * Remind them to always multiply the numbers together and then the letters.   e.g. 3*a* x *2a* = 3 x 2 x *a* x *a* = 6*a2*   * Students should discuss what they have found out. Encourage them to write what happens in their own words. |

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|  | ***Simplifying Algebraic Fractions:*** |
| **How to:**  *(Use Simplifying Algebraic Fractions - 21)* | * Similar process to multiplying except the problems are broken up into four parts and there are only seven problems. (*Start at problem #1 and work through in order.*) * The problem, expanding factors, removing common factors, answer. * Remind them to simplify the numbers and letters separately. * Discuss what they have found. Write what happens in their own words. |

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| ***Sequencing:*** | ***Expanding***  Students are given worked examples which have been split up. They need to put them back in order.  For these ones there is the problem, the working, the answer. Three parts, and there are fifteen problems grouped together. |
| **How to:**  *(Use*  *Expanding - 22)* | * Students need to group together the three parts for each problem. Once they have the three parts, they should put them in the correct order to make a correctly worked problem. (*Start with problem #1 and work through in order.*) * Students should discuss what they have found out. Encourage them to write what happens in their own words. |

**MULTIPLYING - 20**

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| 1. **5*b*3** | **= 54*a**b*** | **= 15*p2*** |
| 1. **62*b*** | **= 35*p**p*** | **= 3*a2b3*** |
| 1. **2*a*5*b*** | **= 26*b**b*** | **= 12*a7*** |
| 1. **5*a*4*b*** | **= 42*a**a3*** | **= 12*b*** |
| 1. ***a*5*p*** | **= 43*a2**a5*** | **= 5*ap*** |
| 1. **2*a*4** | **= 53*b*** | **= 24*a3*** |
| 1. **2*b*4*a*** | **= 5*a**p*** | **= 3*by*** |
| 1. ***y*3*b*** | **= 25*a**b*** | **= 20*ab*** |
| 1. **3*p*5*p*** | **= 32*a**a**b**b*** | **= 15*b*** |
| 1. **4*a*3*a*2*a*** | **= 3*a**a**b3*** | **= 8*ab*** |
| 1. **2*b*6*b*** | **= 24*a**b*** | **= 8*a4*** |
| 1. **4*a*2*a3*** | **= 3*b**y*** | **= 6*a2b2*** |
| 1. **4*a2*3*a5*** | **= 62*b*** | **= 12*b2*** |
| 1. **3*ab*2*ab*** | **= 432*a**a**a*** | **= 8*a*** |
| 1. ***a*3*ab3*** | **= 24*a*** | **= 10*ab*** |

**SIMPLIFYING ALGEBRAIC FRACTIONS - 21**

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|  |  | **= 5*b4*** |  |
|  |  | **= 3*a*** | **= 5*x*** |
|  |  |  | **= 4*a*** |
|  |  | **= 5*x*** |  |
|  |  | **= 4*a*** | **= 3*a3*** |
|  |  |  | **= 3*a*** |
|  |  | **= 3*a3*** | **= 5*b4*** |

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|  |  | **= 5*b4*** |  |
|  |  | **= 3*a*** | **= 5*x*** |
|  |  |  | **= 4*a*** |
|  |  | **= 5*x*** |  |
|  |  | **= 4*a*** | **= 3*a3*** |
|  |  |  | **= 3*a*** |
|  |  | **= 3*a3*** | **= 5*b4*** |

**EXPANDING - 22**

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| 1. **3(*a* + 2)** | **= 34 + 37*m*** | **= 12 + 21*m*** |
| 1. **8(*d* + 6)** | **= 9*j* - 95** | **= 20*q* - 4*r*** |
| 1. **4(6 + *g*)** | **= 45*q* - 4*r*** | **= 15*x* - 20** |
| 1. **9(*j* - 5)** | **= 53*x* - 54** | **= 24 + 4*g*** |
| 1. **3(4 + 7*m*)** | **= 8*d* + 86** | **= *y* 2 - 2*y*** |
| 1. **4(5*q* - *r*)** | **= 46 + 4*g*** | **= -30*z* + 35*z* 2** |
| 1. **2(2*u* + 1)** | **= 3*a* + 32** | **= 8*d* + 48** |
| 1. **5(3*x* - 4)** | **= *y**y* - *y*2** | **= 4*u* + 2** |
| 1. **-1(3*x* + 2)** | **= 2*z*2*z* + 2*z*5** | **= 3*a* + 6** |
| 1. **-3(2*x* - 2)** | **= *y*2*y* + *y*8** | **= 4*z* 2 + 10*z*** |
| 1. ***y*(*y* - 2)** | **= -13*x* + -12** | **= 9*j* - 45** |
| 1. ***y*(2*y* + 8)** | **= 7*z**z* - 7*z*4** | **= -3*x* - 2** |
| 1. **7*z*(*z* - 4)** | **= -5*z*6 - -5*z*7*z*** | **= -6*x* + 6** |
| 1. **2*z*(2*z* + 5)** | **= 22*u* + 21** | **= 7*z* 2 - 28*z*** |
| 1. **-5*z*(6 - 7*z*)** | **= -32*x* - -32** | **= 2*y* 2 + 8*y*** |