Name: ..... Class: .....

Factor using the distributive property

Factor the following expressions below.(write your answers as a product with a whole number (common factor greater than 1)).

1. 54m + 63

2. 9a + 27b

2. 2 r + 24

a 2(4 r + 24) **b** 2 (r + 12) **c** (2 r + 8) **d** 24 (2r + 1)

2. 36x + 12y + 72w

a- 2 (12x + 6y + 36w) **b-** 3 (12x + 4y + 24w) **c-** 6(6x + 2y + 12w)

d- 12(3x + y + 6w)

2. 100t + 125s + 70u

a- 5(20t + 25s + 14u) **b-** 5(500t + 625s + 350u) **c-** 10(10t + 12.5s + 7u)

d- 2(50t + 62.5s + 35u)

2. 841f + 2,523g + 29

a- 1(841f + 2,523g +29) **b-** 29fg(29 + 87 + 1fg) **c-** 29(29f + 87g + 1)

d- fg(841 + 2,523 + 29)

Solution

Name: ..... Class: .....

Factor using the distributive property

Factor the expressions below. (write your answers as a product with a whole number (common factor greater than 1))

1. 54m + 63

Find a common factor greater than 1 of all the numbers in the expression.

Factors of 54: 1, 2, 3, 6, 9, 18, 27, 54

Factors of 63: 1, 3, 7, 9, 21, 63.

3 and 9 are the common factors of 54 and 63. Pick the largest one which is 9

Divide each number in the expression by 9.

$$54m \quad + \quad 63$$

$$\frac{54m}{9} = 6 \qquad \frac{63}{9} = 7$$

Factor 9 out of 54m + 63.

$$54m + 63 = 9.6m + 9.7$$

Apply the distributive property.

$$= 9.6m + 9.7$$

$$= 9 (6m + 7)$$

So, 54m + 63 = 9 (6m + 7).

2. So, 9a + 27b = 9 (a + 3b).

3. **b-** 2 (r + 12).

4. **d-** 12(3x + y + 6w).

5. **a-** 5(20t + 25s + 14u).

6. **c-** 29(29f + 87g + 1).