Taking out a common factor — Three terms

Name: _____ Date: _____

Take out the greatest common factor. Fill in every number.

1. $102x^2 + 187x + 51 = \_\_\_(\_\_\_x^2 + \_\_\_x + \_\_\_)$

2. $22x^2 + 16x + 6 = \_\_\_(\_\_\_x^2 + \_\_\_x + \_\_\_)$

3. $12x^2 + 8x + 24 = \_\_\_(\_\_\_x^2 + \_\_\_x + \_\_\_)$

4. $39x^2 + 65x + 78 = \_\_\_(\_\_\_x^2 + \_\_\_x + \_\_\_)$

5. $18x^2 + 54x + 126 = \_\_\_(\_\_\_x^2 + \_\_\_x + \_\_\_)$

6. $48x^2 + 20x + 44 = \_\_\_(\_\_\_x^2 + \_\_\_x + \_\_\_)$

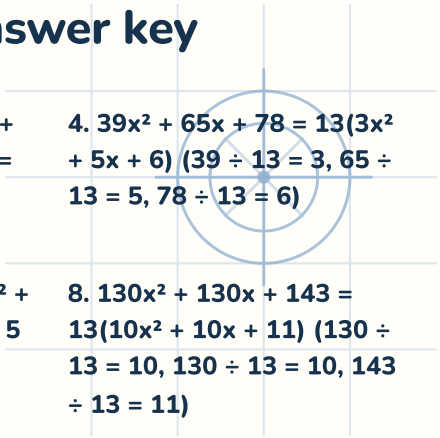
7. $30x^2 + 20x + 55 = \_\_\_(\_\_\_x^2 + \_\_\_x + \_\_\_)$

8. $130x^2 + 130x + 143 = \_\_\_(\_\_\_x^2 + \_\_\_x + \_\_\_)$

9. $32x^2 + 96x + 112 = \_\_\_(\_\_\_x^2 + \_\_\_x + \_\_\_)$

10. $10x^2 + 6x + 2 = \_\_\_(\_\_\_x^2 + \_\_\_x + \_\_\_)$

Taking out a common factor · Three terms — Answer key



1. $102x^2 + 187x + 51 = 17(6x^2 + 11x + 3)$ ($102 \div 17 = 6$, $187 \div 17 = 11$, $51 \div 17 = 3$)

2. $22x^2 + 16x + 6 = 2(11x^2 + 8x + 3)$ ($22 \div 2 = 11$, $16 \div 2 = 8$, $6 \div 2 = 3$)

3. $12x^2 + 8x + 24 = 4(3x^2 + 2x + 6)$ ($12 \div 4 = 3$, $8 \div 4 = 2$, $24 \div 4 = 6$)

4. $39x^2 + 65x + 78 = 13(3x^2 + 5x + 6)$ ($39 \div 13 = 3$, $65 \div 13 = 5$, $78 \div 13 = 6$)

5. $18x^2 + 54x + 126 = 18(x^2 + 3x + 7)$ ($18 \div 18 = 1$, $54 \div 18 = 3$, $126 \div 18 = 7$)

6. $48x^2 + 20x + 44 = 4(12x^2 + 5x + 11)$ ($48 \div 4 = 12$, $20 \div 4 = 5$, $44 \div 4 = 11$)

7. $30x^2 + 20x + 55 = 5(6x^2 + 4x + 11)$ ($30 \div 5 = 6$, $20 \div 5 = 4$, $55 \div 5 = 11$)

8. $130x^2 + 130x + 143 = 13(10x^2 + 10x + 11)$ ($130 \div 13 = 10$, $130 \div 13 = 10$, $143 \div 13 = 11$)

9. $32x^2 + 96x + 112 = 16(2x^2 + 6x + 7)$ ($32 \div 16 = 2$, $96 \div 16 = 6$, $112 \div 16 = 7$)

10. $10x^2 + 6x + 2 = 2(5x^2 + 3x + 1)$ ($10 \div 2 = 5$, $6 \div 2 = 3$, $2 \div 2 = 1$)