**Factor the polynomial.**

1. 10xy + 15xy2 2. 121r3s4 + 77r2s4 – 55r4s3 3. 3x2 – 4x + 2

4. 21x2 + 41x + 10 5. 16z2 – 56z + 49 6. 81r2 – 16t2

7. x3 – 25x 8. 64x2 – 36y2 9. 216x9 + 125y3

10. 2ay2 – axy + 6xy – 3x2 11. x4 – 3x3 + 8x – 24 12. x8 – 16

13. y2 + 9 – 6y – 4x2 14. 4x3 + 4x2 + x 15. y6 + 7y3 - 8

16. The basal energy requirement for an individual indicated the minimum number of calories necessary to maintain essential life-sustaining processes such as circulation, body temperature, and respiration. Given a person’s sex, weight w in kilograms, height h in centimeters, and age y in years, we can estimate the basal energy requirement in calories using the following formulas, where Cf and Cm are the calories necessary for females and males respectively:

Cf = 66.5 + 13.8w + 5h – 6.8y Cm = 655 + 9.6w + 1.9h – 4.7y

Determine the basal energy requirement for the following:

1. 25-year old female weighing 59 kilograms and 163 centimeters tall
2. 55-year old male weighing 75 kilograms and 178 centimeters tall