Homework 5.2 Factoring Quadratics Part 1

*Factor each quadratic expression.*

1. $5x^2 + 15x$

2. $2x^2 - 4x$

3. $4x + 6y$

4. $10x + 45$

5. $x^2 - 64$

6. $a^2 - 9$

7. $b^2 - 8b + 15$

8. $m^2 - 16m + 63$

9. $k^2 - 4k - 60$

10. $m^2 + m - 6$

11. $p^2 - 2p - 15$

12. $r^2 + r - 20$

13. $3r^2 + 21r + 30$

14. $2p^2 + 14p + 24$

15. $2r^2 - 16r + 30$

16. $3n^2 - 9n + 6$

17. $3b^2 - 3b - 36$

18. $2n^2 + 2n - 12$

19. The area of a rectangle is represented by the expression $p^2 + 3p - 18$. The length is given as $(p + 6)$. What is an expression for the width?

**5.2 Answers**

1 $5x(x+3)$ 2 $2x^2(x-4)$ 3 $2(2x+3y)$ 4 $5(2x+9)$ 5 $(a-3)(a+3)$ 6 $(a-3)(a+3)$
7 $(b-5)(b-3)$ 8 $(m-9)(m-7)$ 9 $(k+6)(k-10)$ 10 $(m+3)(m-2)$ 11 $(p-5)(p+3)$
12 $(r-4)(r+5)$ 13 $3(r+2)(r+5)$ 14 $2(p+4)(p+3)$ 15 $2(r-3)(r-5)$ 16 $3(n-2)(n-1)$
17 $3(b+3)(b-4)$ 18 $2(n+3)(n-2)$ 19 $(p-3)$