Algebra 1R

Assignment #67
Factoring: Factoring Completely
* Optional

1 – 9: Factor completely

1. * $x^3 - 9x$
2. $2x^2 - 50$
3. $x^3 - x^2 - 20x$
4. * $3x^3 - 27x$
5. $x^4 - 3x^3 - 10x^2$
6. $5y^2 - 500$
7. * $3w^2 - 6w - 24$
8. $9t^3 + 18t^2 - 27t$
9. $a^4 - 81$

10 – 15: Factor.

10. * $\frac{4}{9}y^2 - 16$
11. $49 - 0.09a^2$
12. $m^2 - 13m - 30$
13. * $g^2 + 5g + 6$
14. $n^2 - n - 6$
15. $x^2 - 121$

16 – 18: Factor into two binomials.

16. * ax + bx + ay + by
17. ax + 3x + ya + 3y
18. ax – ay + bx – by

19. We know three ways to factor. What do you look for first when the question states, "Factor"? Why? Explain.

R1. * Simplify: x(x – 4) – (x – 3)(x – 2)

R2. Evaluate: $(4x)^2 + 3y^{-1}$, if $x = \frac{1}{5}$ and y = 5

R3. Simplify: $(-3pw^4)^3$

R4. * Find the greatest common factor: $6p^4q^2 - 9p^3q^4$

R5. Express as a trinomial: 4(x – 2)(x + 5)

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1. x(x + 3)(x – 3)
2. 2(x + 5)(x – 5)
3. x(x – 5)(x + 4)
4. 3x(x + 3)(x – 3)
5. $x^2(x-5)(x+2)$
6. 5(y +10)(y – 10)
7. 3(w – 4)(w + 2)
8. 9t(t + 3)(t – 1)
9. $(a^2+9)(a+3)(a-3)$
10. $(\frac{2}{3}y+4)(\frac{2}{3}y-4)$
11. (7 + 0.3a)(7 – 0.3a)
12. (m – 15)(m + 2)
13. (g + 2)(g + 3)
14. (n – 3)(n + 2)
15. (x + 11)(x – 11)
16. (a + b)(x + y)
17. (a + 3)(x + y)
18. (a + b)(x – y)
19. GCF

R1. x – 6

R2. $\frac{31}{25}$

R3. $-27p^3w^{12}$

R4. $3p^3q^2$

R5. $4x^2 + 12x - 40$