# Routine Simplify Practice #1

Fully simplify the following expressions:

1. $^-4y \times ^-2x$

2. $^-y \times 8$

3. $^-2x^3 \times ^-3x$

4. $8x^4 - 2x^4$

5. $12y \div 6y^3$

6. $3x \times ^-4x$

7. $(3y^3)^2$

8. $0.3k \times 0.4k^2$

9. $4x \times \dfrac{x}{8}$

10. $2y + y$

11. $3x^4 \div 15x^2$

12. $(abc)^2$

13. $^-4x + 12x$

14. $4x^3 \times 0.5x$

15. $2k - 4kx$

16. $y^2 \times 3y^2$

17. $4x \times \dfrac{5}{x}$

18. $3x \div x^2$

19. $x^3 + x^4$

20. $(2x^3)^3$

## Answers: Routine Simplify Practice #1

Fully simplify the following expressions:

1. $^-4y \times {}^-2x$       $= {}^{--}8xy$       $= 8xy$

2. $^-y \times 8$       $= {}^-8y$

3. $^-2x^3 \times {}^-3x$       $= {}^{--}6x^4$       $= 6x^4$

4. $8x^4 - 2x^4$       $= 6x^4$

5. $12y \div 6y^3$       $= \dfrac{12}{6}\dfrac{y}{y^3}$       $= \dfrac{2}{y^2}$    or $2y^{-2}$

6. $3x \times {}^-4x$       $= {}^-12x^2$

7. $(3y^3)^2$       $= 3y^3 \times 3y^3$       $= 9y^6$

8. $0.3k \times 0.4k^2$       $= 0.12k^3$

9. $4x \times \dfrac{x}{8}$       $= \dfrac{4x^2}{8}$       $= \dfrac{x^2}{2}$    or $\frac{1}{2}x^2$

10. $2y + y$       $= 3y$

11. $3x^4 \div 15x^2$       $= \dfrac{3}{15}\dfrac{x^4}{x^2}$       $= \dfrac{x^2}{5}$    or $0.2x^2$

12. $(abc)^2$       $= abc \times abc$       $= a^2b^2c^2$

13. $^-4x + 12x$       $= 12x - 4x$       $= 8x$

14. $4x^3 \times 0.5x$       $= 2x^4$

15. $2k - 4kx$       can't be simplified, as the terms are not "like"

16. $y^2 \times 3y^2$       $= 3y^4$

17. $4x \times \dfrac{5}{x}$       $= \dfrac{20x}{x}$       $= 20$

18. $3x \div x^2$       $= \dfrac{3}{1}\dfrac{x}{x^2}$       $= \dfrac{3}{x}$    or $3x^{-1}$

19. $x^3 + x^4$       can't be simplified, as the terms are not "like"

20. $(2x^3)^3$       $= 2x^3 \times 2x^3 \times 2x^3$       $= 8x^9$