

## Review Exercises (Ch. 6)

1)

- a)  $x^9$
- b)  $y^8$
- c)  $x^5 y^5$

3)  $V = 9.261 \cdot 10^{12} \text{ in}^3$

5)  $1.13 \cdot 10^{-3} \text{ ft}$

7) A  $\Leftrightarrow$  3 Quotient law for exponents [Fact 6.4]

B  $\Leftrightarrow$  5 Power-of-a-power law for exponents [Fact 6.2]

C  $\Leftrightarrow$  2 Quotient law for exponents [Fact 6.4] and then Definition 1.2

D  $\Leftrightarrow$  1 Product law for exponents [Fact 6.1]

E  $\Leftrightarrow$  4 Definition 1.2

9)  $20x^4 + 8x^7 y$

11)

- a)  $xy^4$
- b)  $3x^2$
- c) 15

13)  $5x^2 y(z^3 - 3xy^3 + 2x^3 y)$

15)

- a)  $(4x - 3)z$
- b)  $(4x - 3)(y + 7)$

17)

- a)  $x^2 + 6x + 8$
- b)  $4x^3 - 7x^2 - 21x + 18$

19)

- a)  $(2x^2 - 1)(2x + 5)$
- b) Prime
- c)  $(3x + 4)(2y + 1)$

21)

- a)  $24x^2$
- b)  $1x$  and  $24x$   
 $2x$  and  $12x$   
 $3x$  and  $8x$   
 $4x$  and  $6x$
- c)  $3x$  and  $8x$
- d)  $x^2 + 11x + 24 = x^2 + 3x + 8x + 24$
- e)  $(x + 3)(x + 8)$

25)

- a)  $(x - 5)(x + 5)$
- b)  $(3 - y)(3 + y)$
- c)  $(2x - 9y)(2x + 9y)$