

Test 3

- 1) C $6,200 = 6.2 \times 10^3$
- 2) B $.268 = 2.68 \times 10^{-1}$
- 3) C $.000073 \times .0054 =$
 $(7.3 \times 10^{-5}) \times (5.4 \times 10^{-3}) =$
 $(7.3 \times 5.4)(10^{-5} \times 10^{-3}) = 39.42 \times 10^{-8} =$
 $(3.942 \times 10^1) \times 10^{-8} = 3.942 \times 10^{-7}$
- 4) A $32,000,000 \div 16,000 =$
 $(3.2 \times 10^7) \div (1.6 \times 10^4) =$
 $(3.2 \div 1.6)(10^7 \div 10^4) = 2.0 \times 10^3$
- 5) B $\frac{(2.3 \times 10^{-3})(4 \times 10^4)}{2 \times 10^{-2}} =$
 $\frac{(2.3 \times 4.0)(10^{-3} \times 10^4)}{2.0 \times 10^{-2}} =$
 $(9.2 \times 10^1) \div (2 \times 10^{-2}) =$
 $(9.2 \div 2.0)(10^1 \div 10^{-2}) = 4.6 \times 10^3$
- 6) D $2ab^{-1} + 3a^{-1}b - \frac{4b^{-1}}{a^{-1}} =$
 $\frac{2a}{b} + \frac{3b}{a} - \frac{4a}{b} =$
 $\frac{3b}{a} - \frac{2a}{b} \quad (a \text{ and } b \neq 0)$
- 7) B $\frac{A}{6} + \frac{3}{A^2} =$
 $\frac{A(A^2) + 3(6)}{6(A^2)} = \frac{A^3 + 18}{6A^2} \quad (A \neq 0)$
- 8) C $XXX^Y - YXXX + \frac{2^1}{Y^{-1}X^{-3}} =$
 $X^3Y - X^3Y + 2X^3Y = 2X^3Y$
 $(X \text{ and } Y \neq 0)$

9) B $3AABA^{-2} + 4AB - 6B =$
 $3B + 4AB - 6B =$
 $4AB - 3B$

10) A $4X + \frac{3XY^2Y^{-1}}{Y^1} + 8XY$
 $4X + 3XY^2Y^{-2} + 8XY$
 $4X + 3X + 8XY$
 $7X + 8XY \quad (Y \neq 0)$

11) B $\frac{1}{Y} - \frac{3Y}{Y} = 6$
 $1 - 3Y = 6Y$
 $1 = 9Y$
 $Y = \frac{1}{9} \quad (Y \neq 0)$

12) D $\frac{5}{8} = 5 \div 8 = .625$

13) A $3 = 1 \times 3$
 $6 = 1 \times 2 \times 3$
 $8 = 1 \times 2 \times 2 \times 2$
 $\text{LCM} = 1 \times 2 \times 2 \times 2 \times 3 = 24$

14) D $P = 2(3b) + 2(a - b)$
 $P = 6b + 2a - 2b$
 $P = 4b + 2a$

15) C 102° An obtuse angle is greater than 90° and less than 180°

Test 4

1) B $(2\sqrt{3})(3\sqrt{2}) = 6\sqrt{6}$

2) C $(2\sqrt{3}) + (3\sqrt{3}) = 5\sqrt{3}$

3) A $\frac{5\sqrt{3}}{\sqrt{3}\sqrt{3}} = \frac{5\sqrt{3}}{3}$

4) D $2\sqrt{32} = 2\sqrt{16 \cdot 2} =$
 $2 \cdot 4\sqrt{2} = 8\sqrt{2}$

5) B $\sqrt{3}(\sqrt{18Y} + 3\sqrt{3}) =$
 $\sqrt{3}(3\sqrt{2Y} + 3\sqrt{3}) =$
 $3\sqrt{6Y} + 9$

6) C $\frac{\sqrt{75}\sqrt{5}}{\sqrt{5}\sqrt{5}} = \frac{\sqrt{25 \cdot 3 \cdot 5}}{5} =$
 $\frac{5\sqrt{15}}{5} = \sqrt{15}$

7) D $\frac{2\sqrt{5}}{\sqrt{5}\sqrt{5}} + \frac{5\sqrt{2}}{\sqrt{2}\sqrt{2}} =$
 $\frac{2\sqrt{5}}{5} \left(\frac{2}{2}\right) + \frac{5\sqrt{2}}{2} \left(\frac{5}{5}\right) =$
 $\frac{4\sqrt{5} + 25\sqrt{2}}{10}$

8) A $\left(\frac{2}{3}\right)\sqrt{63Y^{12}} =$
 $\left(\frac{2}{3}\right)\sqrt{9 \cdot 7Y^6Y^6} =$
 $\left(\frac{2}{3}\right)3Y^6\sqrt{7} = 2Y^6\sqrt{7}$

9) A $3\sqrt{9/16Y^4} =$
 $3\left(\frac{3}{4}\right)Y^2 = \frac{9}{4}Y^2$

10) A $3\sqrt{50} - 2\sqrt{18} =$
 $3\sqrt{25 \cdot 2} - 2\sqrt{9 \cdot 2} =$
 $15\sqrt{2} - 6\sqrt{2} = 9\sqrt{2}$

11) C Complementary

12) B In the slope-intercept form $Y = mX + b$, b indicates the Y intercept. (See lesson 20 for review)

13) D $V = \text{area of base times the height}$
 $V = (\pi b^2)6 \text{ or } 6\pi b^2$

14) A $\frac{6(Y - 4)}{2} = 3(Y - 4) = 3Y - 12$

15) B $3^3 = 27$ and $3^4 = 81$, so four 3's