

## UEB for Technical Materials

### Practice Page

#### Section 1. Fractions

1.  $\frac{3}{4}$

2.  $3\frac{1}{2}$

3.  $\frac{4+5}{7-1}$

4.  $\frac{x+y}{x-y}$

5.  $\frac{14a}{p}$

6.  $\frac{x+6}{2} = \frac{8}{x}$

7.  $\frac{2}{6} = \frac{\quad}{3}$

8.  $\frac{20}{7} = ?$

9.  $\frac{12a}{x-b}$

10.  $\frac{(4x-3)+7}{y-1}$

#### Section 2: Superscripts and Subscripts

11.  $x^n$

12.  $a^3 + b^3 = ?$

13.  $y^{2n}$

14.  $p^{\frac{1}{2}}$

15.  $p^{-1/2}$

16.  $p^{\frac{a}{b}}$

17.  $350_n$

18.  $x_a^b$

19.  $x_{a+b}$

20.  $\frac{d^2x}{dx^2}$

21.  $x^{\frac{1}{2}}y$

22.  $\frac{3(x-2)+y(x-2)}{x^2-8}$

23.  $\frac{2ab-4a^2}{a^2-3a}$

24.  $A = \pi r^2$

### Section 3: Radicals

25.  $\sqrt{64} = b$

26.  $r = \sqrt{a^2 + b^2}$

27.  $5\sqrt{25}$

28.  $\sqrt[5]{25}$

29.  $\sqrt{25 + 11}$

30.  $\sqrt{25} + 11$

31.  $\sqrt[2]{16x}$

32.  $\sqrt[xy]{z}$

33.  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

34.  $\sqrt{\sqrt{9}}$

### Section 4: Geometry and Trigonometry

35.  $AB \perp CD$

36.  $\angle PQR = 90^\circ$

37.  $\triangle RST$

38.  $C = 2\pi r$

39.  $\tan 30^\circ$

40.  $\sin \theta = 0.259$

41.  $\sin \frac{x}{2}$

42.  $\log_x y$

43.  $3\sin x$

44.  $\sin x + 5\cos y = 3$

45.  $\sin^{-1} 0.5 = 30^\circ$

Section 5: Spatial Problems

46. 
$$\begin{array}{r} 1248 \\ + 39 \\ \hline 1287 \end{array}$$

47. 
$$\begin{array}{r} 58 \\ \times 3 \\ \hline 174 \end{array}$$

48.  $1 \frac{3}{5} \times \frac{8}{9} = \frac{8}{15}$