PRACTICE TEST B

Section 1

1. (A) $20\% = \frac{1}{5}$

   $\frac{1}{5} \cdot 1200 = \$240$ depreciation first year.

   \$1200 – \$240 = \$960 value after 1 year.

   $\frac{1}{5} \cdot 960 = \$192$ depreciation second year.

   \$960 – \$192 = \$768 value after 2 years.

2. (E)

   $\frac{3}{5} = .6$

   $\left(\frac{2}{3}\right)\left(\frac{3}{4}\right) = \frac{1}{2} = .5$

   $\sqrt{.25} = .5$

   $(.9)^2 = .81$

   $\frac{2}{.3} = \frac{20}{3} = 6.\overline{6}$

3. (E)

   $\frac{1}{4} = .25$

   $\frac{1}{4}\% = .25\% = .0025$

4. (D) $\frac{1}{4}\% = \frac{1}{4} \div 100 = \frac{1}{4} \cdot \frac{1}{100} = \frac{1}{400}$

5. (A) .05 (800) = \$40 commission

   80:40 = 2:1

6. (A) Multiply every term by 12.

   $\frac{6}{4-3} = 6$

7. (D) $A + B = 40$
   $B + C = 34$
   $A + C = 42$

   Subtract second equation from third.

   $A - B = 8$

   Subtract from first equation.

   $2B = 32$

   $B = 16$

8. (A) Use a proportion comparing inches to miles.

   $\frac{\frac{1}{4}}{20} = \frac{x}{325}$

   $20x = \frac{325}{4}$

   $x = \frac{325}{4} \cdot \frac{1}{20} = \frac{325}{80} = 4\frac{5}{80} = 4\frac{1}{16}$

9. (D) There are $m + f$ people on the staff. Of these, m are men.

   $\frac{m}{m+f}$ of the staff is men.

10. (A) Represent the angles as $2x$, $3x$, and $4x$.

    $9x = 180$

    $x = 20$

    The angles are 40°, 60°, and 80°, all acute.

11. (C) The linear ratio stays constant, so the perimeter is also multiplied by 2. The area ratio is the square of the linear ratio, so the area is multiplied by 2^2 or 4.

12. (D) In k minutes, $\frac{k}{m}$ of the lawn is mowed.

    Still undone is $1 - \frac{k}{m}$ or $\frac{m-k}{m}$

13. (A) 55% of his salary is spent. 45% is left.

    There is only one answer among the choices less than $\frac{1}{2}$ of his salary.

14. (B) Each side of square = 8

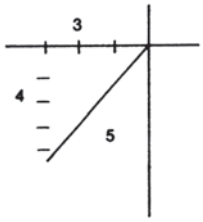
    Radius circle = 2

    Area of square = $8^2 = 64$

    Area of 4 circles = $4\pi r^2 = 4 \cdot \pi \cdot 2^2 = 16\pi$

    Shaded area = $64 - 16\pi$

15. (E) Plotting the point shows a 3, 4, 5 triangle.

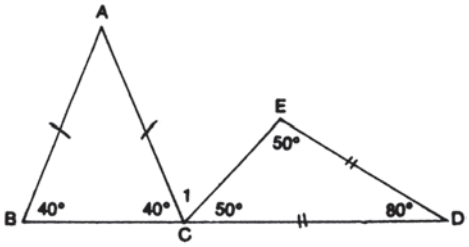


16. (D) Since 6 times 9 is 54, the product must end in 4.

17. (E) Figure the time elapsed on either side of 12 noon. From 7:42 A.M. to 12 noon is 4 hrs. 18 min. From 12 noon, to 10:10 P.M. is 10 hrs. 10 min. The sum of the two is 14 hrs. 28 min.

18. (B) Each side of square *AEDC* is 10.
Each side of square *BCFG* is 6.
Triangle *ABC* is a 6, 8, 10 triangle, making the perimeter 24.

19. (C) There are 90° left for angle 1 since angle *BCD* is a straight angle.



20. (B) Use a proportion comparing pencils to cents. Change 2*D* dollars to 200*D* cents.

$$\frac{p}{200D} = \frac{x}{c}$$

$$\frac{pc}{200D} = x$$

21. (C) Distance of first train = $60x$
Distance of second train = $70x$

$$60x + 70x = 455$$

$$130x = 455$$

$$x = 3\frac{1}{2}$$

In $3\frac{1}{2}$ hours, the time will be 1:30 P.M.

22. (D) When two negative numbers are multiplied, their product is positive.

23. (B) Since 7 times 6 is 42, the product must end in 2.

24. (C) The minimum is 20 students in 8 classrooms.

25. (A) The radius of each circle is 3, making the dimensions of the rectangle 18 by 6, and the area (18)(6), or 108.

Section 2

1. $\frac{25}{10} = \frac{5}{2}$ **(answer)**

2. Marion's hourly wage is $\frac{\$24}{5}$ or $\$4.80$.
Janet's hourly wage is $\frac{\$10.95}{3}$ or $\$3.65$.
$\$4.80 - \$3.65 = \$1.15$. **(answer)**

3. The difference of 5.58 must be divided between both ends. The thickness on each side is 2.79. **(answer)**

4. $$x + .40x = 84$$
$$1.40x = 84$$
$$14x = 840$$
$$x = 60$$ **(answer)**

5. $r + s = 25$
$4(r + s) = 4(25) = 100$ **(answer)**

6. The plane covers 120 miles in 12 minutes or $\frac{1}{5}$ hour. In $\frac{5}{5}$ or 1 hour, it covers 5(120), or 600 miles. 600 **(answer)**

7. 47% of 1000 are boys.
(.47)(1000) = 470 boys **(answer)**

8. For every pair of digits in a number, there will be one digit in the square root. 6 **(answer)**

9. Increase of 40
$$\text{Percent of Increase} = \frac{\text{Amount of increase}}{\text{Original}} \cdot 100\%$$
$$\frac{40}{40} \cdot 100\% = 100\%$$
(answer)

10. $\left(3\sqrt{2}\right)\left(3\sqrt{2}\right) = 9 \cdot 2 = 18$ **(answer)**