26E

1) $3Z - 13 = 20$
$3Z = 33$
$1/3 \cdot 3Z = 33 \cdot 1/3$
$Z = 11$

2) $3(11) - 13 = 20$
$33 - 13 = 20$
$20 = 20$

3) $8L + 7 = 55$
$8L = 48$
$1/8 \cdot 8L = 48 \cdot 1/8$
$L = 6$

4) $8(6) + 7 = 55$
$48 + 7 = 55$
$55 = 55$

5) $\frac{\cancel{22}^{11}}{7} \times \frac{1}{\cancel{2}} \times \frac{5}{12} = \frac{55}{84}$

6) $\frac{5}{\cancel{8}} \times \frac{\cancel{10}}{\cancel{8}} \times \frac{\cancel{21}^{7}}{\cancel{10}} = \frac{35}{8} = 4\frac{3}{8}$

7) $\frac{1}{3} \div \frac{5}{18} = \frac{1}{\cancel{3}} \times \frac{\cancel{18}^{6}}{5} = \frac{6}{5} = 1\frac{1}{5}$

8) $\frac{16}{3} \div \frac{3}{2} = \frac{16}{3} \times \frac{2}{3} = \frac{32}{9} = 3\frac{5}{9}$

9) $9/15 > 5/15$

10) $16/32 = 16/32$

11) $7/21 < 12/21$

12) $5 \times 5{,}280 = 26{,}400$ ft.

13) $\frac{2}{3} \times \frac{5280}{1} = \frac{3520}{1} = 3{,}520$ ft.

14) $7/2 \times 16 = 56$ oz.

15) $25\frac{4}{12} + 1\frac{9}{12} = 26\frac{13}{12} = 27\frac{1}{12}$ mi.

16) 25: 5, 25; 45: 3, 5, 15, 45
GCF = 5

17) yes

18) $\frac{61}{10} \div \frac{3}{2} = \frac{61}{\cancel{10}_{5}} \times \frac{\cancel{2}}{3} = \frac{61}{15} = 4\frac{1}{15}$
so 5 bags

19) $9 \times 9 = 81$

20) 55

26F

1) $7A + 8 = 29$
$7A = 21$
$1/7 \cdot A = 21 \cdot 1/7$
$A = 3$

2) $7(3) + 8 = 29$
$21 + 8 = 29$
$29 = 29$

3) $9M - 9 = 54$
$9M = 63$
$1/9 \cdot 9M = 63 \cdot 1/9$
$M = 7$

4) $9(7) - 9 = 54$
$63 - 9 = 54$
$54 = 54$

5) $\frac{\cancel{6}}{\cancel{5}} \times \frac{3}{2} \times \frac{\cancel{5}}{\cancel{6}} = \frac{3}{2} = 1\frac{1}{2}$

6) $\frac{\cancel{3}}{\cancel{4}} \times \frac{5}{6} \times \frac{\cancel{4}}{\cancel{2}} = \frac{5}{6}$

7) $\frac{5}{8} \div \frac{1}{12} = \frac{5}{\cancel{8}_{2}} \times \frac{\cancel{12}^{3}}{1} = \frac{15}{2} = 7\frac{1}{2}$

8) $\frac{12}{5} \div \frac{36}{25} = \frac{\cancel{12}}{\cancel{5}} \times \frac{\cancel{25}^{5}}{\cancel{36}_{3}} = \frac{5}{3} = 1\frac{2}{3}$

9) $3/4 - 1/4 = 2/4 = 1/2$

10) $\frac{5}{10} - \frac{2}{10} = \frac{3}{10}$

11) $\frac{24}{30} - \frac{5}{30} = \frac{19}{30}$

12) $35 \div 3 = 11$ 2/3 yds.

13) $8 \times 2 = 16$ pts.

14) $3/2 \times 4 = 6$ qts.

15) $10\frac{4}{8} - 6\frac{6}{8} = 9\frac{12}{8} - 6\frac{6}{8} = 3\frac{6}{8} = 3\frac{3}{4}$ tons
$\frac{15}{\cancel{4}} \times \frac{\cancel{2000}^{500}}{1} = 7{,}500$ lbs.

16) $3 \times 3 \times 7$

17) $13/2 \times 12 = 78$ in.

18) $7/8 \times 5{,}280 = 4{,}620$ ft.
$4{,}620 \div 3 = 1{,}540$ yds.

19) $23 \times 23 = 529$

20) 40

27A

1) done

2) $\frac{22}{7}(3^2) = \frac{22}{7} \times \frac{9}{1} = \frac{198}{7} = 28\frac{2}{7}$ sq. ft.

3) $\frac{22}{7}(21^2) = \frac{22}{\cancel{7}} \times \frac{\cancel{441}^{63}}{1} = \frac{1386}{1} = 1{,}386$ sq. in.

4) $\frac{22}{7}(6^2) = \frac{22}{7} \times \frac{36}{1} = \frac{792}{7} = 113\frac{1}{7}$ sq. ft.

5) $\frac{22}{7}(4^2) = \frac{22}{7} \times \frac{16}{1} = \frac{352}{7} = 50\frac{2}{7}$ sq. yds.

6) done

7) $\frac{2}{1} \times \frac{22}{7} \times \frac{3}{1} = \frac{132}{7} = 18\frac{6}{7}$ ft.

8) $\frac{2}{1} \times \frac{22}{\cancel{7}} \times \frac{\cancel{21}^{3}}{1} = \frac{132}{1} = 132$ in.

9) $\frac{2}{1} \times \frac{22}{7} \times \frac{6}{1} = \frac{264}{7} = 37\frac{5}{7}$ ft.

10) $\frac{2}{1} \times \frac{22}{\cancel{7}} \times \frac{\cancel{7}}{1} = \frac{44}{1} = 44$ in.

27B

1) $\frac{22}{7}(4^2) = \frac{22}{7} \times \frac{16}{1} = \frac{352}{7} = 50\frac{2}{7}$ sq. in.

2) $\frac{22}{7}(28^2) = \frac{22}{\cancel{7}} \times \frac{\overset{112}{\cancel{784}}}{1} = \frac{2464}{1} = 2{,}464$ sq. ft.

3) $\frac{22}{7}(11^2) = \frac{22}{7} \times \frac{121}{1} = \frac{2662}{7} = 380\frac{2}{7}$ sq. in.

4) $\frac{22}{7}(70^2) = \frac{22}{\cancel{7}} \times \frac{\overset{700}{\cancel{4900}}}{1} = \frac{15400}{1} = 15{,}400$ sq. ft.

5) $\frac{22}{7}(10^2) = \frac{22}{7} \times \frac{100}{1} = \frac{2200}{7} = 314\frac{2}{7}$ sq. ft.

6) $\frac{2}{1} \times \frac{22}{7} \times \frac{4}{1} = \frac{176}{7} = 25\frac{1}{7}$ in.

7) $\frac{2}{1} \times \frac{22}{\cancel{7}} \times \frac{\overset{4}{\cancel{28}}}{1} = \frac{176}{1} = 176$ ft.

8) $\frac{2}{1} \times \frac{22}{7} \times \frac{11}{1} = \frac{484}{7} = 69\frac{1}{7}$ in.

9) $\frac{2}{1} \times \frac{22}{\cancel{7}} \times \frac{\overset{10}{\cancel{70}}}{1} = \frac{440}{1} = 440$ ft.

10) $\frac{2}{1} \times \frac{22}{7} \times \frac{9}{1} = \frac{396}{7} = 56\frac{4}{7}$ in.

27C

1) $\frac{22}{7}(49^2) = \frac{22}{\cancel{7}} \times \frac{\overset{343}{\cancel{2401}}}{1} = \frac{7546}{1} = 7{,}546$ sq. in.

2) $\frac{22}{7}(5^2) = \frac{22}{7} \times \frac{25}{1} = \frac{550}{7} = 78\frac{4}{7}$ sq. ft.

3) $\frac{22}{7}(8^2) = \frac{22}{7} \times \frac{64}{1} = \frac{1408}{7} = 201\frac{1}{7}$ sq. in.

4) $\frac{22}{7}(42^2) = \frac{22}{\cancel{7}} \times \frac{\overset{252}{\cancel{1764}}}{1} = \frac{5544}{1} = 5{,}544$ sq. ft.

5) $\frac{22}{7}(12^2) = \frac{22}{7} \times \frac{144}{1} = \frac{3168}{7} = 452\frac{4}{7}$ sq. ft.

6) $\frac{2}{1} \times \frac{22}{\cancel{7}} \times \frac{\overset{7}{\cancel{49}}}{1} = \frac{308}{1} = 308$ in.

7) $\frac{2}{1} \times \frac{22}{7} \times \frac{5}{1} = \frac{220}{7} = 31\frac{3}{7}$ ft.

8) $\frac{2}{1} \times \frac{22}{7} \times \frac{8}{1} = \frac{352}{7} = 50\frac{2}{7}$ in.

9) $\frac{2}{1} \times \frac{22}{\cancel{7}} \times \frac{\overset{6}{\cancel{42}}}{1} = \frac{264}{1} = 264$ ft.

10) $\frac{2}{1} \times \frac{22}{\cancel{7}} \times \frac{\overset{5}{\cancel{35}}}{1} = \frac{220}{1} = 220$ mi.

27D

1) $\frac{22}{7}(7^2) = \frac{22}{\cancel{7}} \times \frac{\overset{7}{\cancel{49}}}{1} = \frac{154}{1} = 154$ sq. in.

2) $\frac{2}{1} \times \frac{22}{\cancel{7}} \times \frac{\cancel{7}}{1} = \frac{44}{1} = 44$ in.

3) $\frac{22}{7}(9^2) = \frac{22}{7} \times \frac{81}{1} = \frac{1782}{7} = 254\frac{4}{7}$ sq. ft.

4) $\frac{2}{1} \times \frac{22}{7} \times \frac{9}{1} = \frac{396}{7} = 56\frac{4}{7}$ ft.

5) $3P - 15 = 12$

$3P = 27$

$1/3 \cdot 3P = 27 \cdot 1/3$

$P = 9$

6) $3(9) - 15 = 12$

$27 - 15 = 12$

$12 = 12$

7) $\frac{\cancel{6}}{\cancel{5}} \times \frac{\cancel{5}}{\cancel{12}} \times \frac{3}{7} = \frac{3}{14}$

8) $\frac{3}{\cancel{5}} \times \frac{\cancel{26}}{\cancel{14}} \times \frac{\cancel{7}}{\cancel{2}} = \frac{3}{1} = 3$

9) $\frac{9}{11} \div \frac{1}{11} = \frac{9 \div 1}{1} = 9$

10) $\frac{9}{4} \div \frac{27}{22} = \frac{\cancel{9}}{\cancel{4}} \times \frac{\overset{11}{\cancel{22}}}{\cancel{27}} = \frac{11}{6} = 1\frac{5}{6}$

11) done

12) 8 pt. = 8 pt.

13) 8 oz. > 7 oz.

14) $\frac{22}{7}(16^2) = \frac{22}{7} \times \frac{256}{1} = \frac{5632}{7} = 804\frac{4}{7}$ sq. in.

15) 1/2 x 1/2 x 1/2 = 1/8 cu. ft.

16) 1/2 x 12 = 6 in; 6 x 6 x 6 = 216 cu. in.

17) $2\frac{1}{4} + 5\frac{1}{4} = 7\frac{2}{4} = 7\frac{1}{2}$

$7\frac{1}{2} + 1\frac{1}{2} = 8\frac{2}{2} = 9$ in.

18) 49

27E

1) $\frac{22}{7}(56^2) = \frac{22}{\cancel{7}} \times \frac{\overset{448}{\cancel{3136}}}{1} = 9856$ sq. in.

2) $\frac{2}{1} \times \frac{22}{\cancel{7}} \times \frac{\overset{8}{\cancel{56}}}{1} = \frac{352}{1} = 352$ in.

3) $\frac{22}{7}(6^2) = \frac{22}{7} \times \frac{36}{1} = \frac{792}{7} = 113\frac{1}{7}$ sq. ft.

4) $\frac{2}{1} \times \frac{22}{7} \times \frac{6}{1} = \frac{264}{7} = 37\frac{5}{7}$ ft.

5) $9D + 14 = 23$
$9D = 9$
$1/9 \cdot 9D = 9 \cdot 1/9$
$D = 1$

6) $9(1) + 14 = 23$
$9 + 14 = 23$
$23 = 23$

7) $\frac{\cancel{9}^{3}}{\cancel{4}_{1}} \times \frac{\cancel{8}^{2}}{\cancel{3}_{1}} \times \frac{2}{\cancel{9}_{1}} = \frac{4}{3} = 1\frac{1}{3}$

8) $\frac{\cancel{5}^{1}}{\cancel{6}_{2}} \times \frac{\cancel{9}^{3}}{\cancel{2}_{1}} \times \frac{\cancel{14}^{7}}{\cancel{3}_{1}} = \frac{5}{1} = 5$

9) $\frac{4}{7} \div \frac{7}{3} = \frac{4}{7} \times \frac{3}{7} = \frac{12}{49}$

10) $\frac{32}{3} \div \frac{17}{4} = \frac{32}{3} \times \frac{4}{17} = \frac{128}{51} = 2\frac{26}{51}$

11) 15 qts. < 32 qts.

12) 4,000 lbs. > 1,500 lbs.

13) 1,760 ft. = 1,760 ft.

14) 3/4 x 2,000 = 1,500 lbs.

15) $\frac{22}{7}(14^2) = \frac{22}{\cancel{7}} \times \frac{\overset{28}{\cancel{196}}}{1} = \frac{616}{1} = 616$ sq. ft.

16) $\frac{2}{1} \times \frac{22}{\cancel{7}} \times \frac{\cancel{14}^{2}}{1} = \frac{88}{1} = 88$ ft.

17) $\frac{1}{\cancel{2}_{1}} \times \frac{9}{\cancel{2}_{1}} \times \frac{\cancel{8}^{4}}{1} = \frac{18}{1} = 18$ sq. in.

18) $\frac{21}{2} \div \frac{7}{6} = \frac{\cancel{21}^{3}}{\cancel{2}_{1}} \times \frac{\cancel{6}^{3}}{\cancel{7}_{1}} = \frac{9}{1} = 9$ cakes

19) $3A = 90$
$1/3 \cdot 3A = 90 \cdot 1/3$
$A = 30$ yrs.

20) 28

27F

1) $\frac{22}{7}(21^2) = \frac{22}{\cancel{7}} \times \frac{\overset{63}{\cancel{441}}}{1} = \frac{1386}{1} = 1{,}386$ sq. in.

2) $\frac{2}{1} \times \frac{22}{\cancel{7}} \times \frac{\overset{3}{\cancel{21}}}{1} = \frac{132}{1} = 132$ in.

3) $\frac{22}{7}(10^2) = \frac{22}{7} \times \frac{100}{1} = \frac{2200}{7} = 314\frac{2}{7}$ sq. ft.

4) $\frac{2}{1} \times \frac{22}{7} \times \frac{10}{1} = \frac{440}{7} = 62\frac{6}{7}$ ft.

5) $4Q - 5 = 3$

$4Q = 8$

$1/4 \cdot 4Q = 8 \cdot 1/4$

$Q = 2$

6) $4(2) - 5 = 3$

$8 - 5 = 3$

$3 = 3$

7) $\frac{\overset{3}{\cancel{12}}}{5} \times \frac{11}{\cancel{4}_{1}} = \frac{33}{5} = 6\frac{3}{5}$

8) $\frac{\overset{9}{\cancel{45}}}{\cancel{8}_{1}} \times \frac{\cancel{8}^{1}}{\cancel{5}_{1}} \times \frac{15}{7} = \frac{135}{7} = 19\frac{2}{7}$

9) $\frac{4}{10} \div \frac{2}{5} = \frac{\cancel{4}^{2}}{\cancel{10}_{2}} \times \frac{\cancel{5}^{1}}{\cancel{2}_{1}} = \frac{1}{1} = 1$

10) $\frac{66}{7} \div \frac{21}{10} = \frac{\overset{22}{\cancel{66}}}{7} \times \frac{10}{\cancel{21}_{7}} = \frac{220}{49} = 4\frac{24}{49}$

11) 204 in. > 17 in.

12) 10,000 lbs. = 10,000 lbs.

13) 3,960 ft. < 4,000 ft.

14) $\frac{22}{7}(1^2) = \frac{22}{7} \times \frac{1}{1} = \frac{22}{7} = 3\frac{1}{7}$ sq. mi.

15) $\frac{22}{7}(2^2) = \frac{22}{7} \times \frac{4}{1} = \frac{88}{7} = 12\frac{4}{7}$ sq. mi. (no)

16) $9\frac{\overset{3}{\cancel{4}}}{\cancel{4}_{1}} - 6\frac{\cancel{3}^{1}}{\cancel{4}_{1}} = 3\frac{1}{4}$ lbs.

17) $\frac{1}{2} \times \frac{9}{1} \times \frac{10}{3} = \frac{15}{1} = 15$ sq. in.

18) $20\frac{1}{3} + 20\frac{1}{3} = 40\frac{2}{3}$
$30\frac{1}{2} + 30\frac{1}{2} = 60\frac{2}{2} = 61$
$40\frac{2}{3} + 61 = 101\frac{2}{3}$ ft.

19) $101\frac{2}{3} \times \frac{3}{5} = \frac{\overset{61}{\cancel{305}}}{\cancel{3}_{1}} \times \frac{\cancel{3}^{1}}{5} = 61$ ft.

20) 47