29D

1) 5' 16"
- 2' 8"
3' 8"

2) 10 yd. 2 ft.
+ 5 yd. 1 ft.
15 yd. 3 ft. = 16 yd.

3) 9 lb. 11 oz.
- 7 lb. 8 oz.
2 lb. 3 oz.

4) 0745
5) 3:30 + 12:00 = 1530
6) 2319 - 12:00 = 11:19 PM
7) 8:21 AM

8) $2X^2 + 5X - 1$
$+ (-3X^2 + 6X + 10)$
$-X^2 + 11X + 9$

9) $-6X^2 + 4X - 5$
$+ (2X^2 - 4X + 4)$
$-4X^2 - 1$

10) $-4X^2 + 5X - 1$
$+ (8X^2 - 2X + 6)$
$4X^2 + 3X + 5$

11) 0.00612
12) 25
13) 1.59
14) dekagram
15) 1/100

16) A - $\frac{50}{200} = \frac{1}{4}$

B - $\frac{90}{120} = \frac{3}{4}$

$\frac{3}{4} > \frac{1}{4}$ B is more dangerous

17) 6

18) 1615 - 1130 = 1645 - 1200 = 4:45
4 hours and 45 minutes

29E

1) 7' 10"
+ 1' 7"
8' 17" = 9' 5"

2) 25 yd. 1 ft. + 1 ft. = 25 yd. 2 ft.
- 18 yd. 2 ft. + 1 ft. = 19 yd. 0 ft.
6 yd. 2 ft.

3) 2 lb. 8 oz.
+ 5 lb. 8 oz.
7 lb. 16 oz. = 8 lb.

4) 0112
5) 9:55 + 12:00 = 2155
6) 10:30 AM
7) 1942 - 12:00 = 7:42 PM

8) $-3X^2 + 7X - 2$
$+ (6X^2 - 6X + 9)$
$3X^2 + 1X + 7$

9) $-5X^2 + 9X - 3$
$+ (6X^2 + 4X - 3)$
$X^2 + 13X - 6$

10) $6X^2 + 8X - 20$
$+ (7X^2 - 5X + 13)$
$13X^2 + 3X - 7$

11) $\frac{3}{4} \times \frac{16}{3} = \frac{48}{12} = 4$

12) $\frac{1}{2} \times \frac{5}{6} = \frac{5}{12}$

13) $\frac{7}{8} + \frac{1}{5} = \frac{35}{40} + \frac{8}{40} = \frac{43}{40} = 1\frac{3}{40}$

14) hectoliter
15) 1/1000
16) $V = 3.14(5^2)(6) = 471$ cu. in.
$V = 3.14(6^2)(5) = 565.2$ cu. in.
no, the second one holds more
17) 11:04 - 5:06 = 10:64 - 5:06 = 5:58 AM
18) a plane
19) $V = 1/3(3.14)(10^2)(20) = 2{,}093.33$ cu. in.
20) $\frac{2}{36} = \frac{1}{18}$

29F

1) 38' 3" + 8" = 38' 11"
- 21' 4" + 8" = 22' 0"
16' 11"

2) 5 yd. 3 ft.
- 1 yd. 2 ft.
4 yd. 1 ft.

3) 8 lb. 7 oz.
+ 3 lb. 12 oz.
11 lb. 19 oz. = 12 lb. 3 oz.

4) 0527
5) 0000
6) 12:30 AM
7) 1550 - 12:00 = 3:50 PM

8) $-9X^2 + 4X - 8$
$+ (3X^2 - 11X + 2)$
$-6X^2 - 7X - 6$

9) $12X^2 - X - 8$
$+ (11X^2 + 7X - 9)$
$23X^2 + 6X - 17$

10) $6X^2 + 5X - 18$
$+ (9X^2 - 7X + 12)$
$15X^2 - 2X - 6$

11) $\frac{5}{2} \div \frac{7}{4} = \frac{5}{2} \times \frac{4}{7} = \frac{20}{14} = \frac{10}{7} = 1\frac{3}{7}$

12) $\frac{37}{8} \times \frac{13}{4} = \frac{481}{32} = 15\frac{1}{32}$

13) $7\frac{5}{15} + 9\frac{12}{15} = 16\frac{17}{15} = 17\frac{2}{15}$

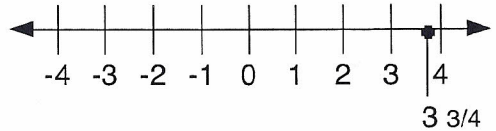
14) 1,000
15) 100

16) $\frac{5}{265} = \frac{1}{53}$

17) 3 + 4 + 8 + 8 + 12 = 35; 35/5 = 7
median = 8; mode = 8
18) 1430 - 1015 = 4 hrs. 15 min. or 4.25 hrs.
4.25 x 6.50 = $27.63 (rounded)
19) $45 x 1.08 = $48.60; $100 - 48.60 = $51.40
20) $\frac{3}{4} = \frac{9}{G}$; 3G = 36; G = 12

30A

1) rational
2) irrational
3) rational
4) rational
5) rational
6) rational
7) rational
8) rational
9) irrational
10) rational
11) rational
12) irrational
13) false
14) true
15) false
16) true
17) false
18) done
19) (estimated answer)



20)

$\sqrt{15625}$ = 125

1 x 20 = 20 → 1

56

22 x 2 = 44 → 44

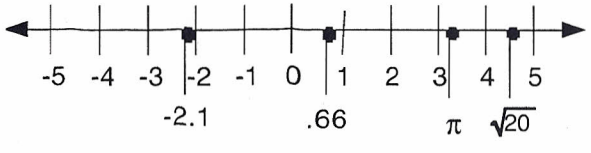
12 x 20 = 240 → 1225

5 x 245 = 1225 → 1225

Check: 125 x 125 = 15,625

30B

1) rational
2) rational
3) irrational
4) rational
5) irrational
6) rational
7) rational
8) irrational
9) rational
10) rational
11) rational
12) irrational
13) true
14) false
15) true
16) false
17) false
18-19) see number line



20)

$$\begin{array}{r} 122 \\ \sqrt{1,48,84} \\ 1 \\ \hline 48 \\ 44 \\ \hline 484 \\ 484 \end{array}$$

1 x 20 = 20
2 x 22 = 44
12 x 20 = 240
2 x 242 = 484

check: $122^2 = 14{,}884$

30C

1) irrational
2) rational
3) rational
4) rational
5) rational
6) rational
7) irrational
8) rational
9) rational
10) rational
11) irrational
12) rational
13) true
14) false
15) false
16) true
17) false
18-19) see number line

20)

$$\begin{array}{r} 258 \\ \sqrt{6,65,64} \\ 4 \\ \hline 265 \\ 225 \\ \hline 4064 \\ 4064 \end{array}$$

2 x 20 = 40
45 x 5 = 225
25 x 20 = 500
8 x 508 = 4,064

check: $258^2 = 66{,}564$

30D

1) rational
2) irrational
3) rational
4) 6' 17"
- 3' 6"
3' 11"
5) 9 yd. 2 ft.
+ 6 yd. 2 ft.
15 yd. 4 ft. = 16 yd. 1 ft.
6) 15 lb. 7 oz. + 6 oz. =15 lb.13 oz.
- 8 lb. 10 oz. + 6 oz. = 9 lb. 0 oz.
6 lb. 13 oz.
7) 0815
8) 4:25 + 12:00 = 1625
9) 1921 - 12:00 = 7:21 PM
10) 6:38 AM
11) $X^2 + 5X + 4$
12) $X^2 + 9X + 14$
13) $X^2 + 8X + 15$
14) done
15) done
16) 30
17) .35
18) $1/3(3.14)(10^2)(20)$ =
2,093.33 cu. in.

30E

1) rational
2) rational
3) irrational
4) 6:21
- 2:19
4:02
5) 3:24 + :30 = 3:54
- 1:30 + :30 = 2:00
1:54
6) 4:20
+ 3:45
7:65 = 8:05
7) 15 = 3 x 5
20 = 2 x 2 x 5
GCF = 5
8) 12 = 2 x 2 x 3
18 = 2 x 3 x 3
GCF = 2 x 3 = 6
9) 75 = 3 x 5 x 5
45 = 3 x 3 x 5
GCF = 3 x 5 = 15
10) X = 5
11) $7W + 3 = 4W + 2^2 + 8$
$7W - 4W = 4 + 8 - 3$
$3W = 9$
$W = 3$
12) $-4X + 9 = -51$
$9 + 51 = 4X$
$60 = 4X$
$15 = X$
13) 4,000
14) 5,000
15) .21
16) 16
17) $3.14(5^2)(4) = 314$ cu. in.
18) $\frac{20}{500} = \frac{1}{25}$

30F

1) rational
2) irrational
3) irrational
4) 2Q = 50
Q = 25
5) 4X = 160
X = 40
6) 7Q = 168
Q = 24
7) 12 = 2 x 2 x 3
48 = 2 x 2 x 2 x 2 x 3
LCM = 2 x 2 x 2 x 2 x 3 = 48
8) 3 = 1 x 3;
16 = 2 x 2 x 2 x 2
LCM = 2 x 2 x 2 x 2 x 3 = 48
9) 9 = 3 x 3; 12 = 2 x 2 x 3
LCM = 2 x 2 x 3 x 3 = 36
10) 9,000
11) .075
12) $1/3(9^2)(14) = 378$ cu. in.
13) 85 + 87 + 90 + 90 + 98=450
mean = 450 ÷ 5 = 90
median = 90
mode = 90
14) obtuse
15) 4
16) 2(2 x 6)+2(2 x 4)+2(6 x 4)=
24 + 16 + 48 = 88 sq. ft.
17) $\frac{358}{1000} = \frac{179}{500}$
18) \$25 x 2.50 = \$62.50