Math 05 8-9-13 (1

Elem. alg. concepts and apps.
8th Ed. (Bittenger)

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www.nvaphysics.com = class web-site.

[OFFICE HOURS] 2009 → AFTER OR
before by appt.

1.1 GRID

Example	problem
1 →	13, 15, 23
2 →	25, 27
3 →	27, 30
4 →	31, 33, 49
5 →	51, 53
6 →	55, 57, 59
7 →	

GRID

Ex		problem
8	→	63, 65, 67.
9	→	71, 73, 75.

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problems

(13.) $5a = 5 \cdot a$

$a = 9$

$5 \cdot 9 = \boxed{45}$

(15.) $12 - r$; $r = 4$

$12 - 4 = \boxed{8}$

(23.) $\frac{5z}{y}$; $z = 9$ and $y = 15$

$\frac{45}{15} \rightarrow 15\overline{)45}$ (3, -45)

$\frac{5 \cdot 9}{15} = \frac{45}{15} = 3$

problems

(25.) rectangle:

area = $bh = b \cdot h = (b) \cdot (h)$

$b = 6ft$

$h = 4ft$

area = $6ft \cdot 4ft$

$= (6ft) \cdot (4ft)$

$= 24ft^2$

$= 24$ sq. ft.

(27.)

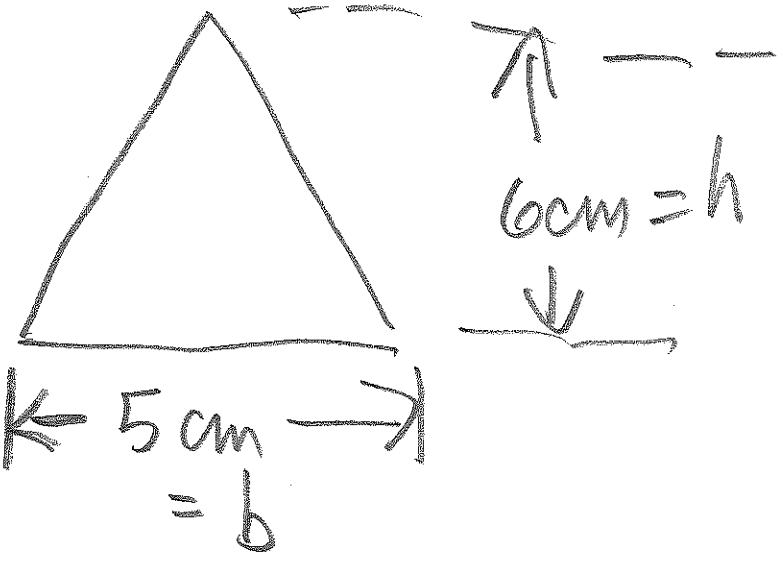
triangle

area = $\frac{1}{2} \cdot b \cdot h$

$= \frac{1}{2} \cdot (b) \cdot (h)$

$= \frac{1}{2} \cdot (5cm) \cdot (6cm)$

$= \frac{1}{2} \cdot 30cm^2$

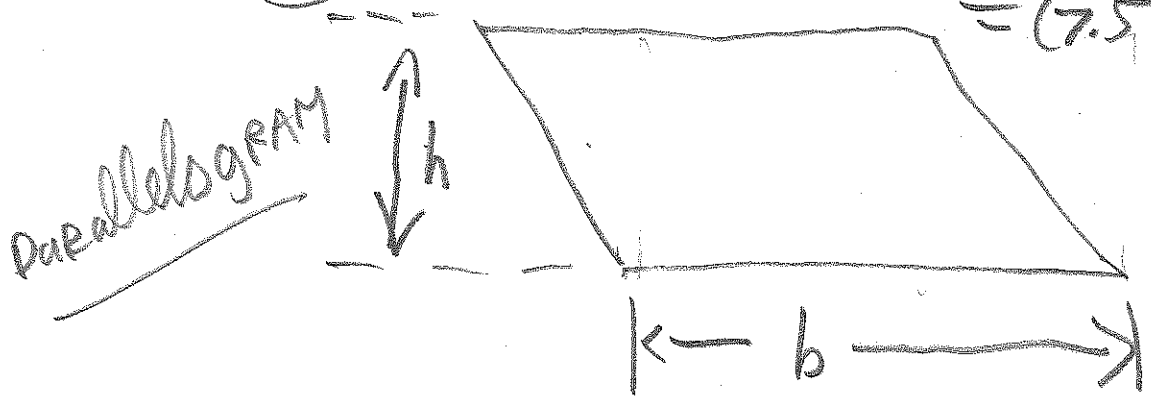


(27.) $\frac{1}{2} \cdot 30\ cm^2 = \frac{30}{2}\ cm^2$

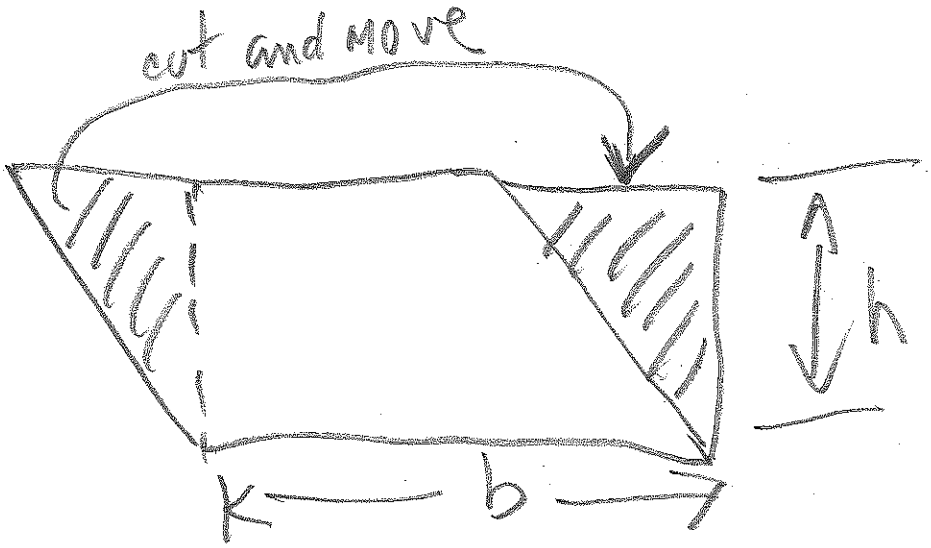
$= 15\ cm^2$

(30.) $area = b \cdot h = (b) \cdot (h)$

$= (7.5\ cm) \cdot (6\ cm)$



NOTE:



$$\begin{array}{r} 3 \\ 7.5 \\ \times\ 6 \\ \hline 45.0\ cm^2 \end{array}$$ = area

(31.) Let Ron's age = x.

$x+5$ ✓

$5+x$ ✓

note: $5+x = x+5$

(53.) $6 \cdot b$

note: $6 \cdot b = b \cdot 6$

note: $6b = 6b$

(99.) $\frac{1}{4}x - 13$ student work

x = number

$\frac{x}{4} - 13$

note: $-13 + \frac{x}{4}$

$\frac{1}{4} \cdot x = \frac{x}{4}$

(6

(51.) Let x = one number

" y = other number

difference $x - y = (x - y)$

$5 \cdot (x - y)$

five times the difference...

(53.) Let x = women attending

$64\% = 0.64$

64% of the women attending

$0.64 \cdot x = 0.64x$

(54.) $0.38x$

$= 0.38x$

(55.) $x + 17 = 42; 25$

$25 + 17 \stackrel{?}{=} 42$ (yes)

$$\begin{array}{r} {\scriptstyle 1} \\ 25 \\ +17 \\ \hline 42 \end{array}$$

(57.) $a - 28 \stackrel{?}{=} 75; 93$

$93 - 28 \stackrel{?}{=} 75$ (NO)

$$\begin{array}{r} {\scriptstyle 8} \\ \cancel{9}13 \\ -\ 28 \\ \hline 65 \end{array}$$

(59.) $\frac{t}{7} = 9;\ 63$

$\rightarrow \frac{63}{7} \stackrel{?}{=} 9$ (yes!)

$$\begin{array}{r} 9 \\ 7\overline{)63} \\ -63 \\ \hline 0 \end{array}$$

$\frac{63}{7} = 9$ yes

because $7 \cdot 9 = 63$

(63.) What number added to 73 is 201?

Answer: $x + 73 = 201$

(extra clarity)

$$\begin{array}{r} x + 73 = 201 \\ -73 \quad -73 \\ \hline x = 128 \end{array}$$

(65)

When 42 is multiplied by a number, the result is 2352

$42 \cdot x = 2352$ answer

$42x = 2352$

$\frac{42x}{42} = \frac{2352}{42}$

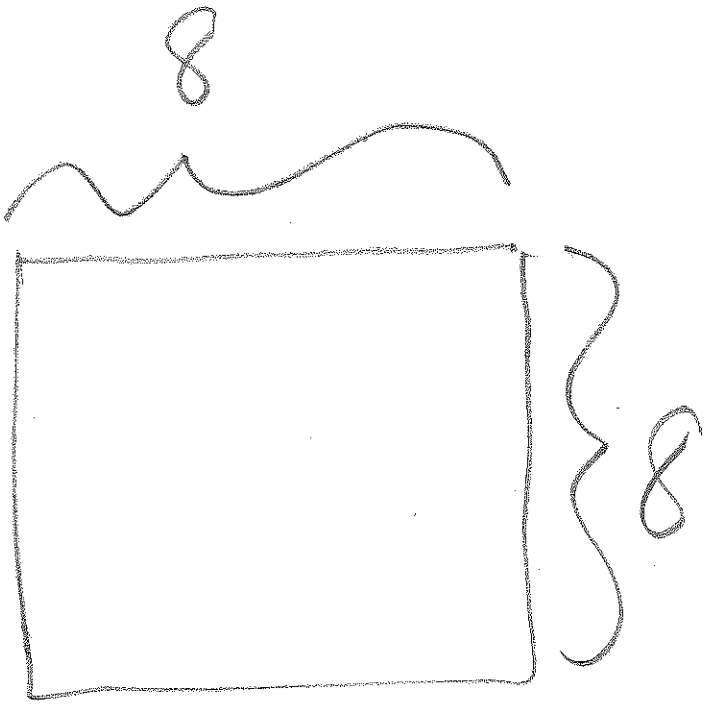
$x = \frac{2352}{42}$

$\boxed{x = 56}$

```
  1
  1      56
 42 ) 2352
    - 210 V
      252
    - 252
      ---
        0
```

(10

(67.)



$64 - 19 = \boxed{45}$

64 = TOTAL

x = occupied

y = unoccupied

$x + y = 64$

$\downarrow$

$19 + y = 64$

$-19 \quad -19$

$y = 45$

5
64
−19
45

(72.) (11.

twice the sum of 2 numbers

m = one number

n = other "

$m + n$ = sum

$2 \cdot (x + y)$

$2 \cdot (m + n)$ (f)

(73.) twelve more than a number is five

$12 + t = 5$ (d)

$t + 12 = 5$ (d)

5.

Three times the sum of a number and five.

Let x = number

sum = $(x+5)$

$3 \cdot (x+5)$

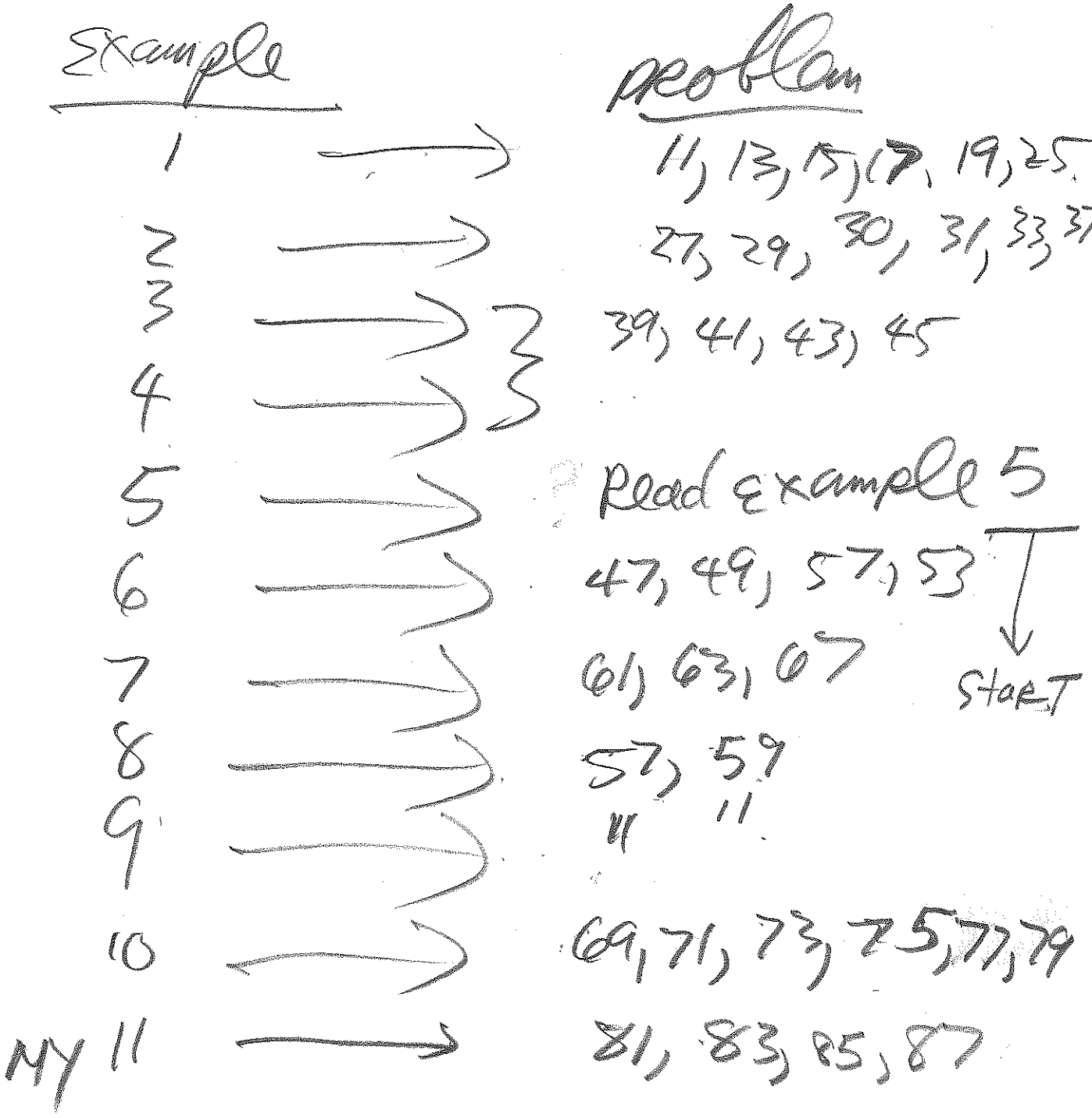
↓

Three times $(x+5)$ (g)

Let $t = x$

$\boxed{3 \cdot (t+5)}$ answer

1.2 GRID


Example
problem
1
2
3
4
5
6
7
8
9
10
My 11
11, 13, 15, 17, 19, 25
27, 29, 30, 31, 33, 37
39, 41, 43, 45
Read example 5
47, 49, 57, 53
61, 63, 67
57, 59
11
69, 71, 73, 75, 77, 79
81, 83, 85, 87
start

sec 1.2

(47.) $2\cdot(x+15) = 2\cdot x + 2\cdot 15$

$= \boxed{2x+30}$

$a\cdot(b+c) = a\cdot b + a\cdot c$

(49.) $4\cdot(1+a) = 4\cdot 1 + 4\cdot a$

$= 4 + 4a$

(57.) $(a+b)\cdot 2 = a\cdot 2 + b\cdot 2$

$= 2\cdot a + 2\cdot b$

$= \boxed{2a+2b}$

(53.) $10\cdot(9x+6)$

$= 10\cdot 9x + 10\cdot 6$

$= \boxed{90x+60}$

(61.) $x + xyz + 1$ TERMS: $x, xyz, 1$

TERMS are separated +

15) (61.) $x + x \cdot y \cdot z + 1$; terms: $x, xyz, 1$

(63.) $2a + \frac{a}{3b} + 5b$

Terms

$2a$
$\frac{a}{3b}$
$5b$

separated by +

(67) $4x + 4y$; terms: $4x, 4y$

(59) $(x + y + 2) \cdot 5$ (distributive)

$= 5x + 5y + 10$

(69) $2 \cdot a + 2 \cdot b = 2a + 2b$

Factoring = distributive in reverse

$= \boxed{2 \cdot (a + b)}$ factoring

CHECK:
$2 \cdot (a + b)$
$= 2a + 2b$

71. $7 + 7y$

$= 7 \cdot 1 + 7 \cdot y$

$= \boxed{7 \cdot (1 + y)} = \boxed{7(1+y)}$

73. $32x + 4$

$= 32 \cdot x + 4 \cdot 1$

$= 4 \cdot 8 \cdot x + 4 \cdot 1$

$= 4 \cdot (8 \cdot x + 1)$

$= 4 \cdot (8x + 1)$

$= 4(8x + 1)$

$4 \overline{)32}$ 8, -32

75. $5x + 10 + 15y$; GCF = 5

$5 \cdot x + 5 \cdot 2 + 5 \cdot 3 \cdot y = \boxed{5 \cdot (x + 2 + 3y)}$