

BE - Geometry I TUESDAY 9-28-10

ON A BLANK piece of computer
paper, USING ONLY Euclid's tools,
CONSTRUCT A "PARALLEL LINE

Through a Point NOT ON THE LINE."

Properly label your work in the
upper right-hand corner.

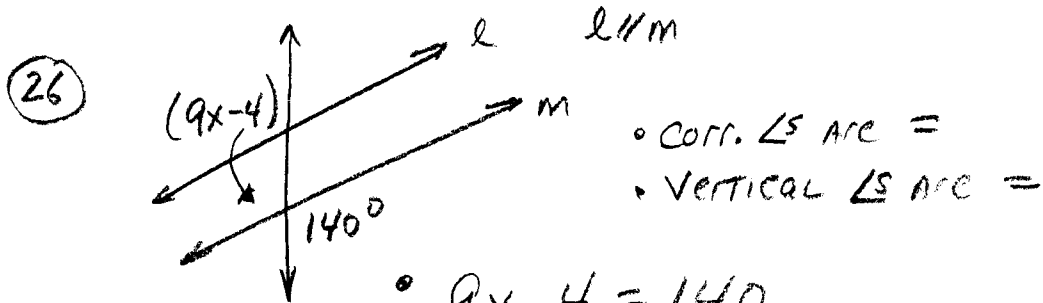
⊙ EX



given line, construct a
line \parallel to it through
a point NOT ON THIS line

• Homework reviews

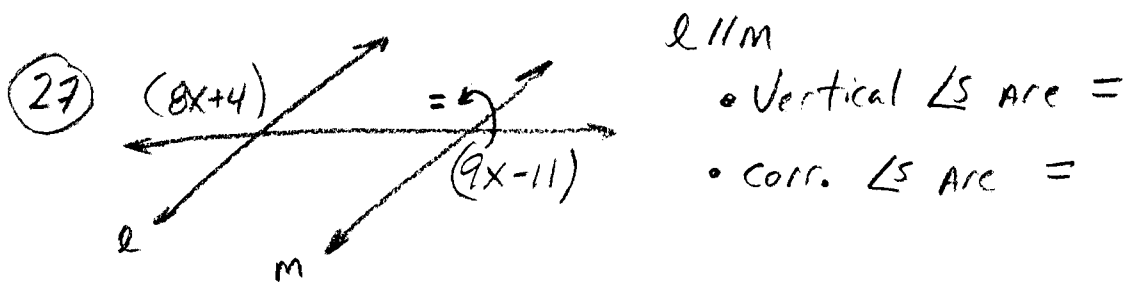
Homework Review - Pg. 155 #26-31



$$\therefore 9x - 4 = 140$$

$$9x = 144$$

$$\boxed{x = 16}$$

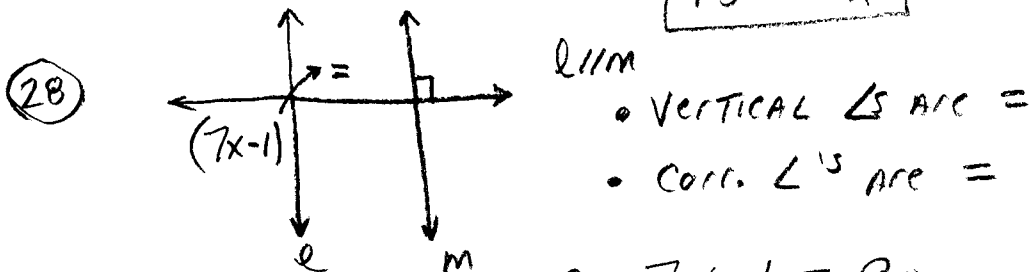


$$\therefore 8x + 4 = 9x - 11$$

$$-8x \quad -8x$$

$$4 = x - 11$$

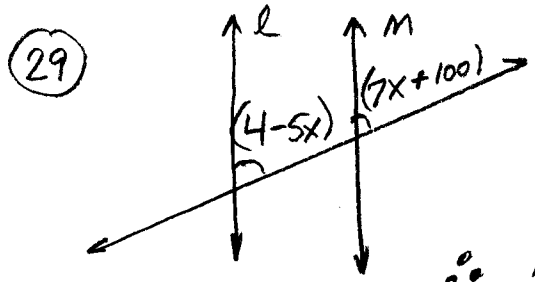
$$\boxed{15 = x}$$



$$\therefore 7x - 1 = 90$$

$$7x = 91$$

$$\boxed{x = 13}$$



$l \parallel m$

- Corr. \angle ARE =

$$\therefore 4 - 5x = 7x + 100$$

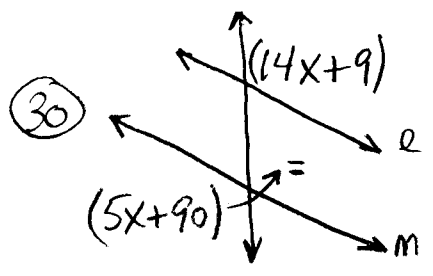
$$+ 5x \quad + 5x$$

$$4 = 12x + 100$$

$$- 100 \quad - 100$$

$$\frac{-96}{12} = \frac{12x}{12}$$

$$x = -8$$



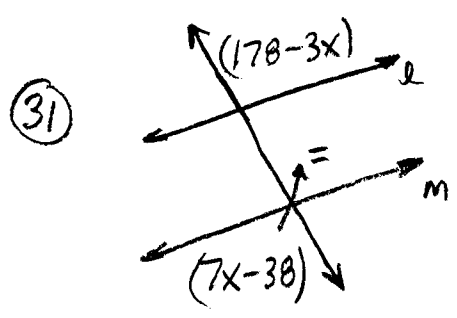
$l \parallel m$

- Vertical \angle ARE =
- Corr. \angle ARE =

$$\therefore 5x + 90 = 14x + 9$$

$$81 = 9x$$

$$x = 9$$



$l \parallel m$

- Vert. \angle ARE =
- Corr. \angle ARE =

$$\therefore 178 - 3x = 7x - 38$$

$$+ 3x \quad + 3x$$

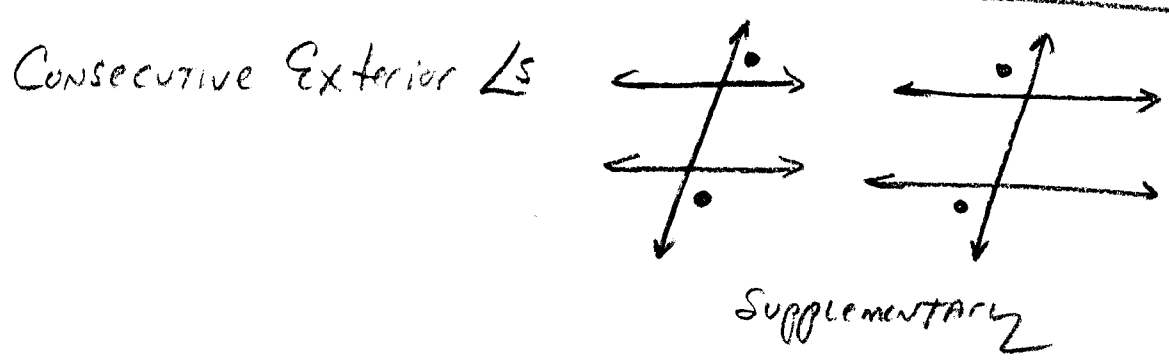
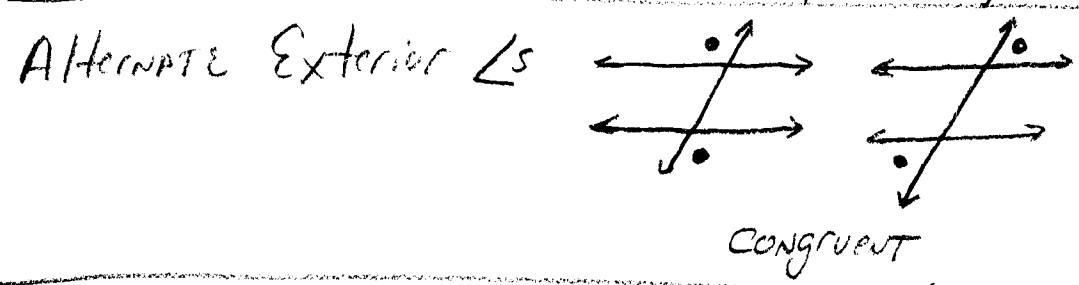
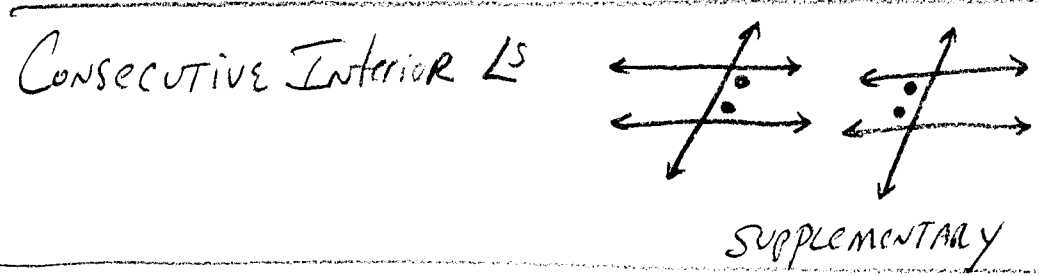
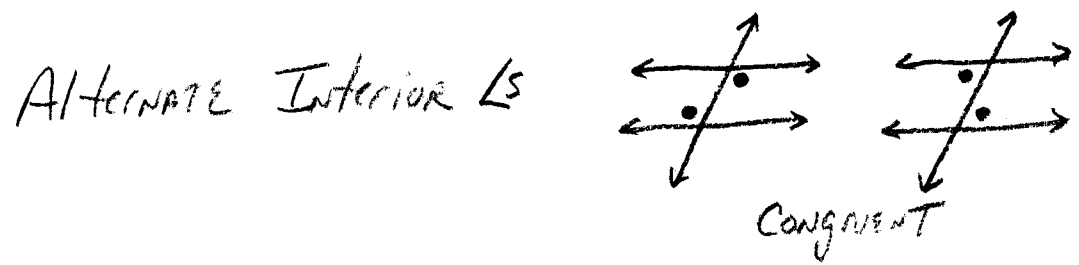
$$178 = 10x - 38$$

$$+ 38 \quad + 38$$

$$216 = 10x$$

$$x = \frac{216}{10} = \frac{103}{5} = 21.6$$

Vocabulary of Parallel Lines Cut by a Transversal

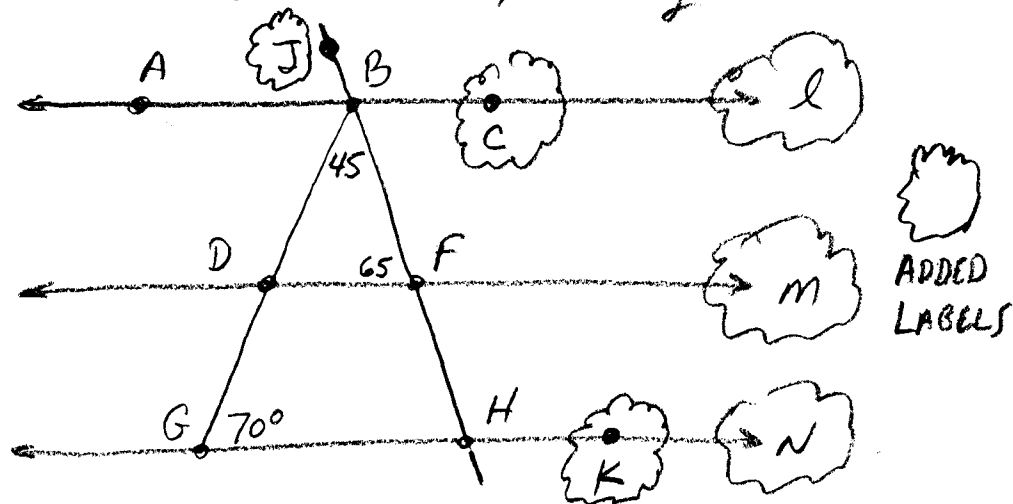


(EX 1) IDENTIFY // LINES

pg 152

GIVEN: \overline{BG} bisects $\angle ABH$

Which lines, if any, are //



$$m\angle BDF = 180 - (45 + 65) = 180 - 110 = 70^\circ$$

$$\angle BDF \cong \angle DGH, m \parallel n \text{ since corr. } \angle s \cong$$

$$m\angle BHG = 180 - (70 + 45) = 180 - 115 = 65^\circ$$

$$m\angle FHK = 180 - 65 = 115^\circ$$

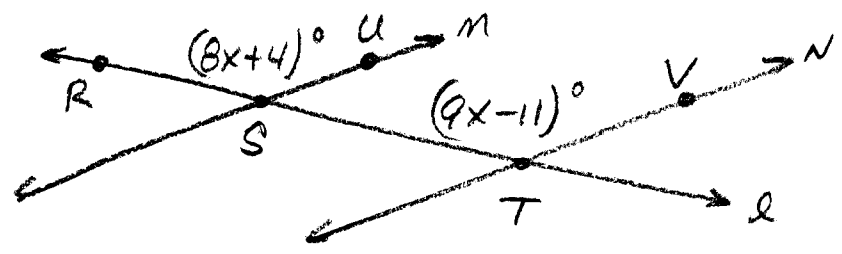
Since \overline{BG} bisects $\angle ABH$, $m\angle ABD = 45^\circ$
(cuts in half)

$$\therefore m\angle FBC = 180 - (45 + 45) = 90^\circ$$

But $\angle FBC$ and $\angle FHK$ are consecutive interior $\angle s$
which must be supplementary for $l \parallel m$
but $90 + 115 \neq 180^\circ \therefore l \nparallel m, l \nparallel n$

Ex 2
Pg 153

Find x and $m\angle RSV$ if $m \parallel n$



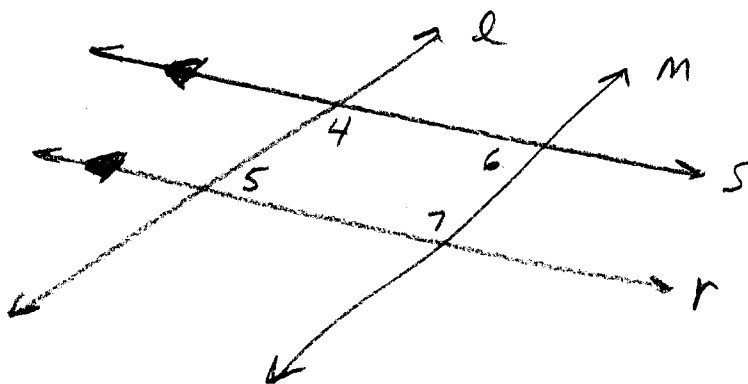
$$\begin{aligned}
 m \parallel n, \quad 8x+4 &= 9x-11 && \text{corr. } \angle s \cong \\
 -8x & \quad -8x && \\
 4 &= x-11 && \\
 \boxed{15} &= x &&
 \end{aligned}$$

$$\begin{aligned}
 * \therefore m\angle RSV &= (8x+4)^\circ \\
 &= 8(15)+4 \\
 &= \boxed{124^\circ} = m\angle RSV
 \end{aligned}$$

* WATCH OUT, x IS NOT THE MEASURE OF ANY OF THESE \angle s, MAKE SURE YOU ANSWER WHAT IS ASKED FOR (ACT TIP!)

EX3
Pg 153

Prove lines $l \parallel m$, Given: $r \parallel s$, $\angle 5 \cong \angle 6$
Prove: $l \parallel m$

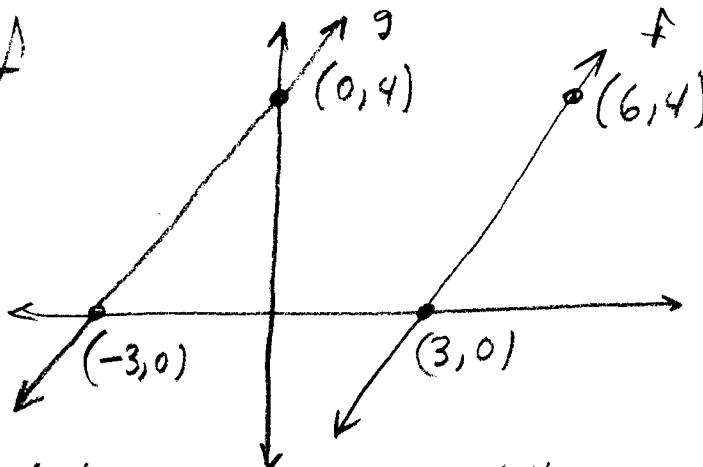


$r \parallel s \Rightarrow \angle 4, \angle 5$ Supplementary, Consec. Int. $\angle 5$
 $\angle 6, \angle 7$ Supplementary, Consec. Int. $\angle 5$

$\angle 5 \cong \angle 6$ Given

$\therefore \angle 5, \angle 7$ Supplementary $\therefore l \parallel m$ Since
 Consecutive Int. $\angle 5$ are supplementary

EX4
Is $g \parallel f$



SLOPE of $f = +\frac{4}{3}$

SLOPE of $g = +\frac{4}{3}$

SAME SLOPES $\therefore g \parallel f$

Homework: Pg 154-156 # 4-7, 11, 38, 39.