**Algeometry** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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(Geometry with infused Algebra) Period: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

For problems 1-3, use line segment BT. Set up an equation, solve, and find the length of $\overline{BI}$ , $\overline{IT}$, and $\overline{BT}$

1. BT = 21 BI = $2x$ IT = $x$
2. BT = $3x+48$ BI = $6x-5$ IT = $3x$
3. BT = $5x+13$ BI = $2x+9$ IT = $5x-2$

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AB

C

T

For problems 4-6, use line segment AT. C is the midpoint of $AT$. Set up an equation, solve, find the length of $\overline{AC}$, $\overline{CT}$, and $\overline{AT}$

1. AC = $3x$ CT = $5x-6$
2. AC = $8x-5$ CT = $3x+15$
3. AC = $5x-4$ AT = 52

In the figure on the right, line *m* is a bisector of $\overbar{PS}$. Set up

*m*

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R

P

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an equation, solve, and find lengths PR, RS, and PS

1. PR = $x-5$ RS = 25
2. PR = $4x+5$ RS = $x+29$
3. PR = $2x$ PS = $18-2x$

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B

V

F

J

For problems 10-12, $\overbar{BV}$ $≅$ $\overbar{FJ}$

1. BV = $3x+17$ FJ = $7x-15$
2. BV = $5(x-2)$ FJ = $2(x+10)$
3. BV+FJ = $3x+14$ FJ = $x+10$
4. Line *n* bisects $\overline{ME}$ at point N. $ME=4x+8$ and $MN=28$. Find the value of x.

**Bookwork Pg. 23-24: #1-6, 8-11 (show algebra), 15-18 (show algebra)**













