Activities/ Resources for Unit VII: Algebra & Geometry II

Lines, Angles and Triangles

Keep in mind...
If at first you succeed, try something harder.

Lines and Angles

A pair of points determines at least 4 geometric figures.

a line	a segment	a ray	the ray opposite XY
$\overleftrightarrow{XY}$ or $\overleftrightarrow{YX}$	$\overline{XY}$ or $\overline{YX}$	$\overrightarrow{XY}$	To name this ray with a symbol an additional point is required.

Identify the following using symbols.

1. 

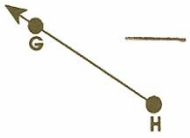
____

2. 

____

3. 

____

4. 

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5. 

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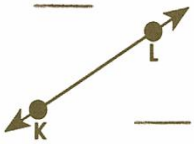
6. 

____

7. 

____

8. 

____

9. 

____

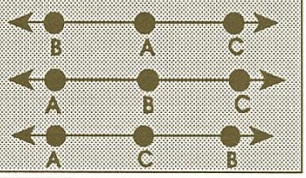
Betweeness

If A, B, C are distinct points on a lines then

A is between B and C, B–A–C

or B is between A and C, A–B–C

or C is between A and B. A–C–B



10. Choose the appropriate symbols, (→, — or ↔) to make this statement true. LB contains points M and V, but LB contains neither M nor V. V belongs to LB but M does not. ML + LV = MV

11. Make a sketch showing the position of the four points in number 10.
12. Is M between L and B?
13. Is L between M and B?
14. Is V between L and B?

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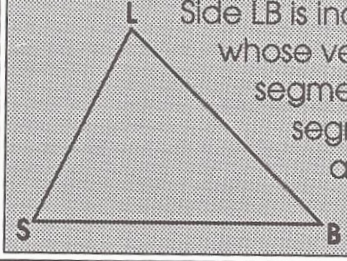
Triangles

Keep in mind...
The only ideas that will work for you are the ones you put to work.

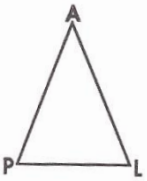
Included Sides and Angles



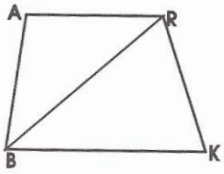
Side LB is included by ∠L and ∠B, the angles whose vertices are the endpoints of the segment. ∠S is included by $\overline{LS}$ and $\overline{BS}$, the segments which form the sides of the angle. ∠B lies opposite $\overline{LS}$. $\overline{BS}$ lies opposite ∠L.

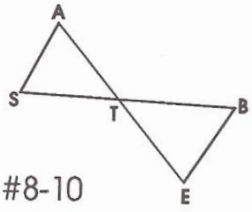
1. The side opposite ∠P is _____.
2. The angle included by $\overline{AP}$ and $\overline{LA}$ is _____.
3. The side included by ∠P and ∠L is _____.
4. The side included by ∠A and ∠ARB is _____.
5. The angles opposite $\overline{BR}$ are _____ and _____.
6. The angle included by $\overline{RB}$ and $\overline{KB}$ is _____.
7. The side opposite ∠KRB is _____.

#1-3



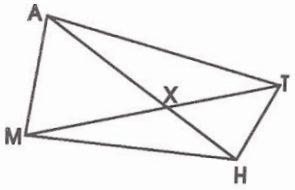
#4-7





#8-10

8. In ΔBET, the side opposite ∠E is _____.
9. In ΔSAT, the angle included by $\overline{AT}$ and $\overline{TS}$ is _____.
10. The segment included by ∠A and ∠STA is _____.



#11-16

11. The side opposite ∠MTH is _____.
12. The side included by ∠AHT and ∠HAT is _____.
13. The angle included by $\overline{AX}$ and $\overline{TX}$ is _____.
14. The angles opposite $\overline{AT}$ are _____, _____, and _____.
15. In ΔAXM, the side opposite ∠M is _____.
16. The segment included by ∠MXH and ∠MHX is _____.

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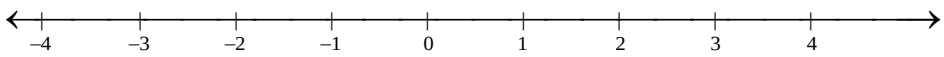
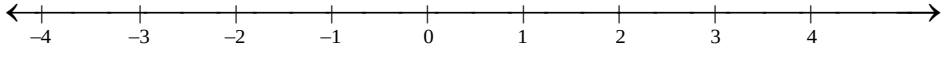
Graphing Inequalities on a Number Line

Graph on a number line.

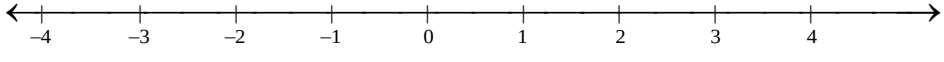
1) $x > 2$



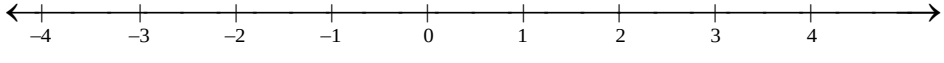
2) $x \leq -1$



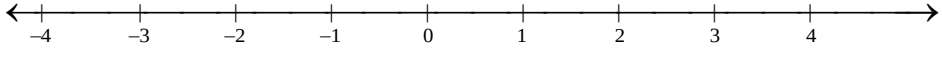
3) $3 > x$



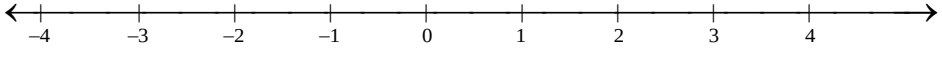
4) $-4 \leq x$



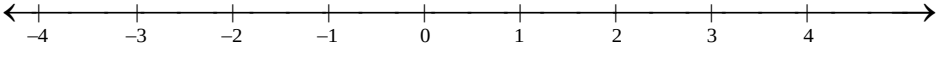
5) $-2 < x < 3$



6) $-3 \leq x \leq 1$

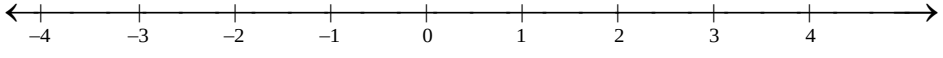


7) $0 \leq x < 4$

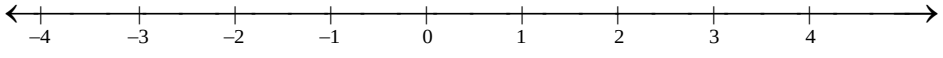


Solve for the variable and graph the solution on a number line.

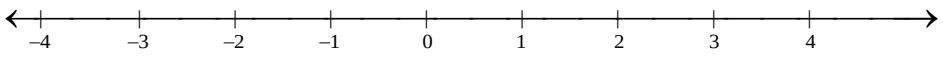
8) $5x + 5 < 3x + 9$



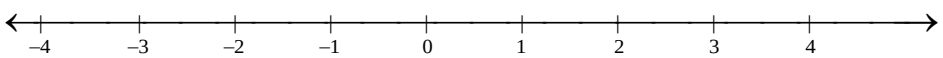
9) $\frac{2}{3}(4x+1) \geq x-6$



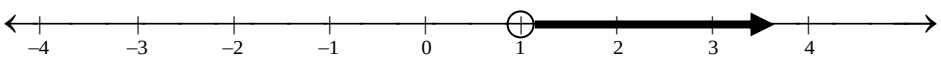
10) $2x > 5x - 6$

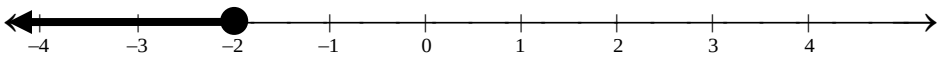


11) $-2(x + 1) \leq 5x - 23$

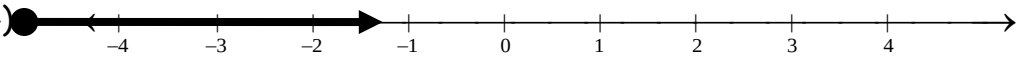


Answers

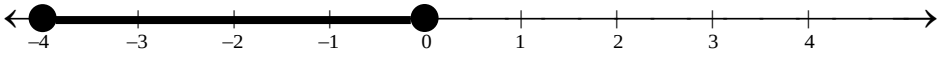
1) 

2) 

3) 

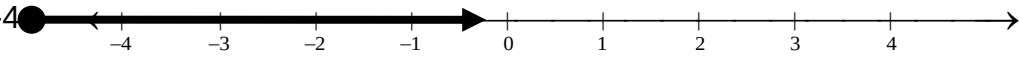
4) 

5) 

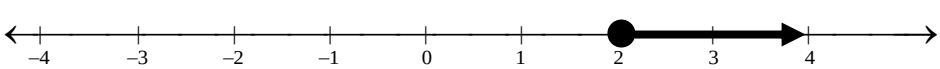
6) 

7) 

8) $x < 2$ 

9) $x \geq -4$ 

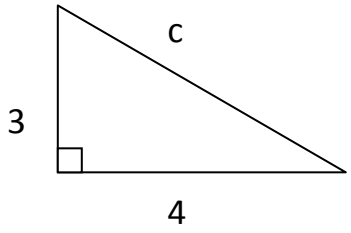
10) $x < 2$ 

11) $x \geq 3$ 

Pythagorean Theorem

Find the missing length.

1.



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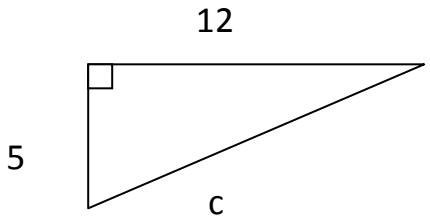
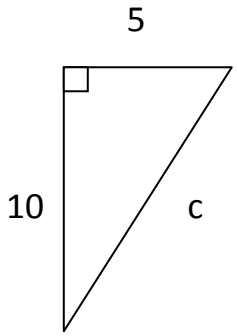


3.



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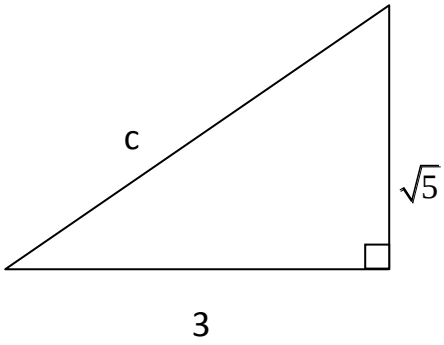

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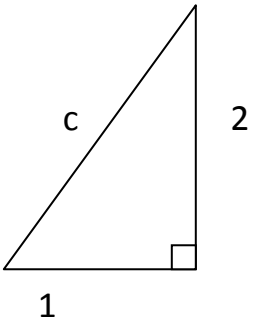

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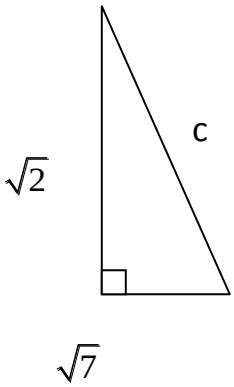

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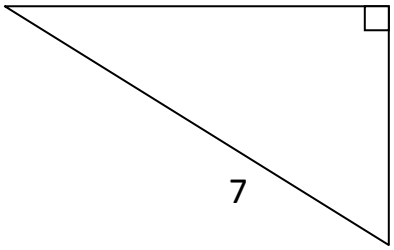

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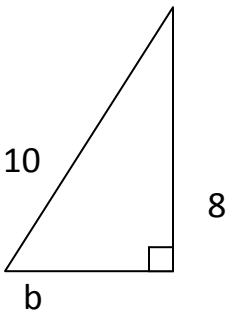

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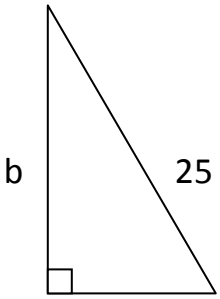

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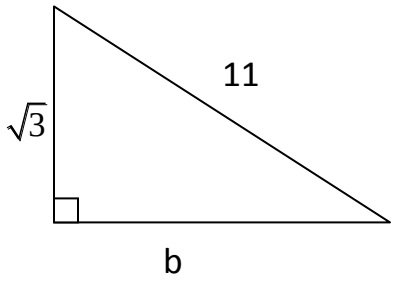

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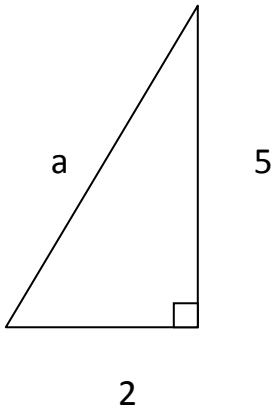

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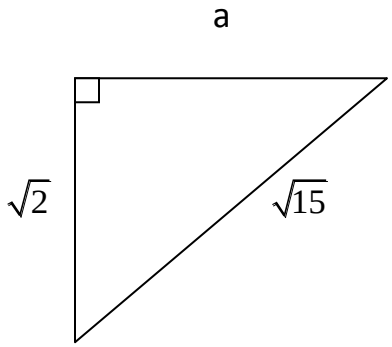

ANSWERS:

1. 5 2. 13 3. $5\sqrt{5}$ 4. $\sqrt{14}$ 5. $\sqrt{5}$

6. 3 7. $3\sqrt{5}$ 8. 6 9. 7 10. $\sqrt{118}$

11. $\sqrt{29}$ 12. $\sqrt{13}$