

Please show **ALL** work in order to receive full credit. Each section will be labeled with "Calc OK" or "No Calc" based on where you would be able to use a calculator on a quiz or test.

For 1–3, simplify the expression. (No Calc)

1.  $12 \div (10 - 3^2)$

**12**

2.  $1 + 6^2 \div 9$

**5**

3.  $24 - 4(3 - 1)^2$

**8**

For 4 – 5, translate the verbal phrase into an algebraic expression or equation: (No Calc)

4. 8 less than the cube of a number  $x$  is less than 10

$x^3 - 8 < 10$

5. the sum of 20 and 8 times a number  $n$  is 48

$20 + 8n = 48$

For 6–7, solve each linear system of equations using the substitution or elimination method. (Calc OK)

6. 
$$\begin{aligned} 3x + 5y &= 6 \\ -4x + 2y &= 5 \end{aligned}$$

**$(-\frac{1}{2}, \frac{3}{2})$**

7. 
$$\begin{aligned} y &= 2x + 1 \\ 3x - 2y &= 3 \end{aligned}$$

**$(-5, -9)$**

For 8–11, solve the quadratic equation. (Calc OK)

8)  $x^2 - 7x - 30 = 0$

**$x = -3 \quad x = 10$**

9)  $9x^2 - 36 = 0$

**$x = -2 \quad x = 2$**

10)  $3x^2 + 16x + 5 = 0$

**$x = -\frac{1}{3} \quad x = -5$**

11)  $4x^2 + 8x - 21 = 0$

**$x = -\frac{7}{2} \quad x = \frac{3}{2}$**

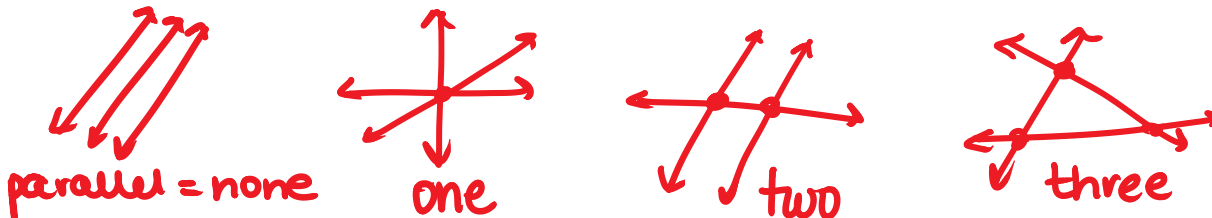
# 1.1 Homework

1. Fill in the table below by drawing a picture and explaining in words.

	How are they similar?	How are they different?
Line and Line Segment	answers	
Line Segment and Ray		vary ☺

2. *Write about it!* Explain why three coplanar lines may have zero, one, two, or three points of intersection. Support your answer with a sketch.

It depends on how the lines intersect. For example ...



Tell whether each statement is sometimes, always, or never true. Support your answers with a sketch.

3. If two planes intersect, they intersect in a straight line.

always

4. If two lines intersect, they intersect at two different points.

never

5.  $\overline{AB}$  is another name for  $\overline{BA}$

always

6. If two rays share a common endpoint, then they form a line.

sometimes



7. Multiple-Choice:

Two flat walls meet in the corner of a classroom. Which postulate best describes this situation?

- a) Through any three noncollinear points there is exactly one plane.
- b) If two points lie in a plane, then the line containing them lies in the plane.
- c) If two lines intersect, they intersect in exactly one point.
- d) If two planes intersect, they intersect in exactly one line.