# Lines & Angles

title

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$9)$ $\underset{59°}{11\textcircled{x}}+37+\underset{31°}{18\textcircled{x}}-5=90$

$29x+32=90$

$\underline{\quad -32 \quad -32}$
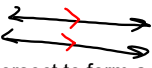
$\dfrac{29x}{29} = \dfrac{58}{29}$

$x=2$        $59°$

Sep 21-9:27 AM

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<u>Parallel lines</u>—lines that do not intersect and are coplanar

➢ The symbol for "is parallel to" is **||** .   $\ell \,||\, r$

➢ Arrows denote parallel lines.

<u>Perpendicular lines</u>—lines that intersect to form a right angle

➢ The symbol for "is perpendicular to" is ⊥ .   $\ell \perp n$

➢ The right angle symbol denotes perpendicular lines.

<u>Skew lines</u>—lines that do not intersect and are *not* coplanar
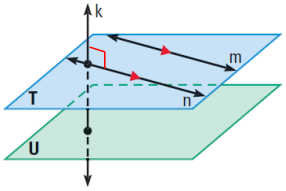
pairs of lines

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Give an example of each from the diagram.

Parallel lines
$n\,||\,m$

Perpendicular lines
$k \perp n$

Skew lines
$k$ and $m$

Parallel planes
$T\,||\,U$

examples

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Transversal—a line that intersects two or more coplanar lines at different points

1 | 2
3 | 4

5 | 6
7 | 8
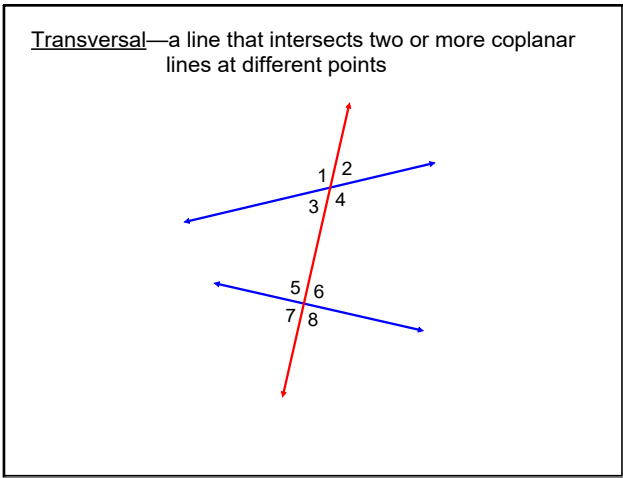
transversal

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## Angles Formed by Transversals

Corresponding angles:
  occupy corresponding positions

∠1 ∝ ∠5, ∠4 ∝ ∠8
∠2 ∝ ∠6, ∠3 ∝ ∠7

Alternate exterior angles:
  lie **outside** the two lines on
  **opposite sides** of the transversal

∠1 ∝ ∠8, ∠2 ∝ ∠7

Alternate interior angles:
  lie **between** the two lines on
  **opposite sides** of the transversal

∠3 ∝ ∠6, ∠4 ∝ ∠5

3 | 4
5 | 6

angles

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## Angles Formed by Transversals

Consecutive exterior angles:
  lie **outside** the two lines on the
  **same side** of the transversal

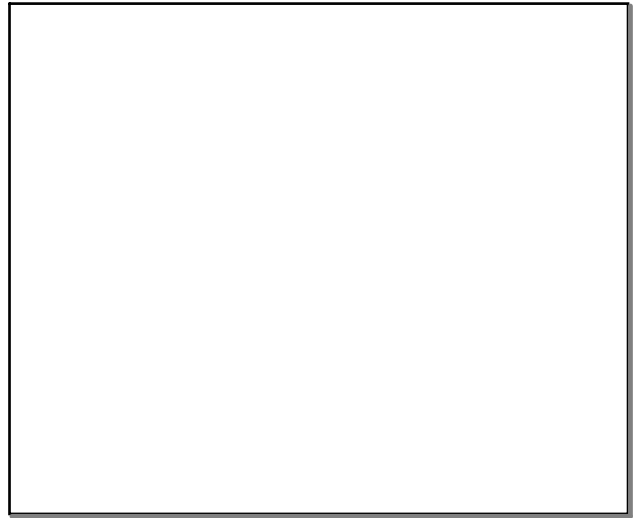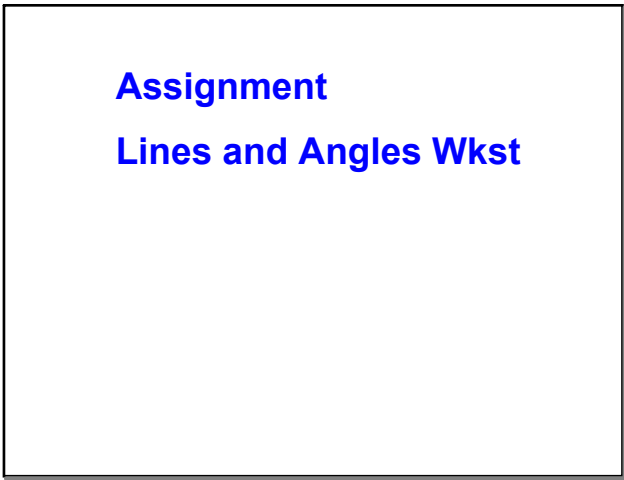➤ Also called *same side exterior angles*.

∠1 ∝ ∠7
∠2 ∝ ∠8

Consecutive interior angles:
  lie **between** the two lines on the
  **same side** of the transversal

➤ Also called *same side interior angles*.

∠3 ∝ ∠5, ∠4 ∝ ∠6

1 | 2
3 | 4
5 | 6

angles

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## Conclusion

**Name the following:**

**Alt. Ext.** ∠7 ∝ ∠8, ∠2 ∝ ∠4

**Consecutive Int.** ∠5 ∝ ∠3, ∠6 ∝ ∠1

**Corresponding** ∠2 ∝ ∠1, ∠7 ∝ ∠3

**Vertical** ∠7 ∝ ∠6, ∠4 ∝ ∠1

**Consecutive Ext.** ∠7 ∝ ∠4, ∠2 ∝ ∠8

**Alt. Interior** ∠5 ∝ ∠1, ∠6 ∝ ∠3

**Any Questions??????**

7 | 2
5 | 6
3 | 1
4 | 8

Sep 9-9:04 AM

**2**

**Assignment**

**Lines and Angles Wkst**

Sep 9-9:09 AM

Sep 9-9:10 AM

Sep 21-1:31 PM