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# Angle Relationships

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# Unit 1

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## 1.5 Good Definitions

# DO NOW

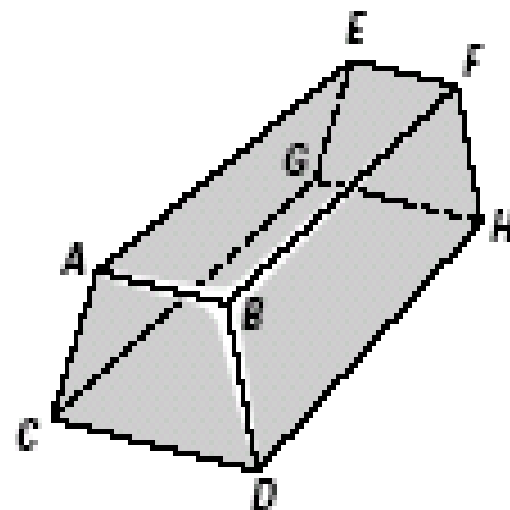
## (1.4 Workbook Example Exercises Odds)

### I Complete (Mini Lesson)

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Work with a partner. For Exercises 1–7, each partner should try to give a different correct answer.

1. Name a pair of parallel lines.
2. Name a pair of skew lines.
3. Name a pair of lines that are neither parallel lines nor skew lines.
4. Name a pair of parallel planes.
5. Name a pair of planes that intersect in a line.
6. Name three planes that intersect at a point.
7. Name a pair of skew lines different from the pair named in Exercise 2.



# Answers

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## Practice 1-4: Example Exercises

1. 22   2. 25   3. 32   4. 11.7   5. 6   6. 3   7. 3   8. 6   9. 5

10. 4   11. 12   12. 7   13. 3   14. 5   15. 6   16. 2   17. 4

18. 7   19. 3   20. 8   21. 7   22. 10   23. 9   24. 9   25. 23

26. 17   27.  $x = 12$ ;  $AB = 39$ ;  $BC = 24$    28.  $x = 8$ ;

$DE = 24$ ;  $EF = 24$    29.  $y = 10$ ;  $GH = 19$ ;  $HI = 32$

# Answers

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## Practice 1-4: Mixed Exercises

1. 4   2. 12   3. 20   4. 6   5. 22   6. -10 or 6   7. -1 or 1

8. any three of the following:  $\angle O$ ,  $\angle MOP$ ,  $\angle POM$ ,  $\angle 1$

9. 15   10. 31   11. 14   12. 51   13. 90   14. 17   15. 107

16. 141   17. 68   18.  $\angle ABD$ ,  $\angle DBE$ ,  $\angle EBF$ ,  $\angle DBF$ ,

$\angle FBC$    19.  $\angle ABE$ ,  $\angle DBC$    20.  $\angle ABE$ ,  $\angle EBC$

21.  $x = 11\frac{2}{3}$ ;  $AB = 31$ ;  $BC = 31$    22.  $x = 35\frac{2}{3}$ ;

$AB = 103$ ;  $BC = 103$

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# Answers (mini lesson)

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Answers may vary. Samples:

1.  $\overleftrightarrow{AB}$  and  $\overleftrightarrow{EF}$    2.  $\overleftrightarrow{AB}$  and  $\overleftrightarrow{DH}$    3.  $\overleftrightarrow{AC}$  and  $\overleftrightarrow{AE}$

4. plane  $ABD$  and plane  $EFH$    5. plane  $CDH$  and plane  $BFD$

6. plane  $CDH$ , plane  $ACG$ , and plane  $ABD$    7.  $\overleftrightarrow{EG}$  and  $\overleftrightarrow{BF}$

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## Objective 1.5

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- Understanding the meaning of terms like bisector and perpendicular

## Essential Question

What is the bisector of an angle?

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# Vocabulary

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- **Midpoint:** Point that divides a segment into two congruent segments.
  - **Perpendicular lines:** Lines that intersect at right angles. (90 degrees)
  - **Perpendicular bisector:** is a line, segment or ray that is perpendicular to a segment at its midpoint
  - **Angle bisector:** Angle that divides an angle into two congruent angles.
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## Example 2 page 34 TE

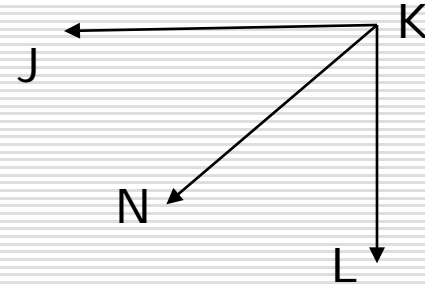
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□ KN bisects  $\angle JKL$

$$m\angle JKN = 5x - 25$$

$$m\angle NKL = 3x + 5$$

Solve for  $x$  and find  $m\angle JKN$



**ANSWER  $x=15$ ,  $\angle JKN = 50$**

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# Problem 10 Page 34 TE

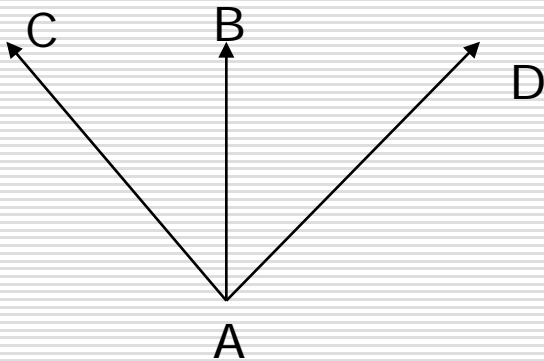
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□ In the diagram AB bisects  $\angle CAD$ .

$$\angle CAB = 7x + 4$$

$$\angle BAD = 10x - 20$$

Solve for x and find  $m\angle CAD$



**Answer:  $x=8, 120$**

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## □ **TOD**

Work book

Practice 1.5 Mixed Exercises

Problems 14-20

## □ **Homework**

Practice 1.5 Example Exercises

Problems 9-10

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