Parallel Lines, Transversals, and Angles Worksheet

Vocabulary Review - Match each term with its definition.

Terms	Definitions
1. Parallel Lines	A. Angles on opposite sides of a transversal and outside the parallel lines
2. Transversal	B. Angles on opposite sides of a transversal and between the parallel lines
3. Corresponding Angles	C. A line that intersects two or more lines
4. Alternate Interior Angles	D. Lines that never intersect and remain the same distance apart
5. Alternate Exterior Angles	E. Angles in matching positions when a transversal crosses two lines
6. Same-Side Interior Angles	F. Angles on the same side of a transversal and between parallel lines

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Part A: Identify the Angle Relationship - Name the relationship between each pair of angles.

Choose from:

Corresponding Angles | Alternate Interior Angles | Alternate Exterior Angles | Same-Side Interior Angles | Vertical Angles

7. Two angles are in matching corners when a transversal crosses parallel lines. _____
8. Two angles are between the parallel lines and on opposite sides of the transversal. _____
9. Two angles are outside the parallel lines and on opposite sides of the transversal. _____
10. Two angles are between the parallel lines and on the same side of the transversal. _____
11. Two angles share the same vertex and are opposite each other. _____

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Part B: Find the Missing Angle

Use the facts:

> Corresponding, Alternate Interior, Alternate Exterior, and Vertical angles are **CONGRUENT**.
>
> Same-side interior angles are **SUPPLEMENTARY**.

12. If a **Corresponding Angle** measures 65°, what is the measure of its corresponding partner? _____°
13. If an **Alternate Interior** angle measures 110°, what is the measure of its alternate interior partner? _____°
14. If two same-side **Interior Angles** are supplementary and one angle is 75°, what is the other angle? _____°
15. If an **Alternate Exterior Angle** measures 132°, what is the measure of its alternate exterior partner? _____°
16. If one **Vertical Angle** measures 48°, what is the measure of the opposite vertical angle? _____°
17. If one same-side **Interior Angle** measures 98°, what is the other angle? _____°
18. If one **Corresponding Angle** measures 125°, what is its matching angle? _____°
19. If one **Alternate Interior** angle measures 84°, what is its partner angle? _____°
20. If one angle in a **Linear** pair measures 145°, what is the other angle? _____°

Part C: Multiple Choice

21. When two parallel lines are cut by a transversal, corresponding angles are:
    a) Supplementary
    b) Congruent
    c) Complementary
    d) Vertical
22. Alternate interior angles are:
    a) Always supplementary
    b) Always complementary
    c) Congruent when lines are parallel
    d) Never congruent
23. Same-side interior angles are:
    a) Congruent
    b) Supplementary
    c) Vertical
    d) Equal to 90°
24. Vertical angles are:
    a) Supplementary
    b) Adjacent
    c) Congruent
    d) Parallel
25. A transversal is:
    a) A line that intersects two or more lines
    b) A pair of parallel lines
    c) A line segment
    d) An angle pair

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Part D: Solve for a, b, c, and d

26. Corresponding angles measure (3e + 5)° and 80°. Find e.

$3e + 5 = 80$

$3e = 80 - 5$

$3e = 75$

$e = 75 \div 3$

$e = 25$

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27. Alternate interior angles measure (4a − 8)° and 60°. Find a.

$\square a - \square = \square$

$4a = 60 + \square$

$4a = \square$

$a = \square$

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28. Same-side interior angles measure (2b + 10)° and 90°. Find b.

$(2b + \square) + 90 = 180$

$\square b + \square = 180$

$2b = 180 - \square$

$2b = \square$

$b = \square$

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29. Vertical angles measure (5c − 15)° and 85°. Find c.

$\square c - 15 = \square$

$5c = 85 + \square$

$5c = \square$

$C = \square$

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