

MATH 5: HANDOUT 02
REVIEW II

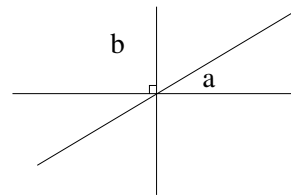
REVIEW TOPICS

- Speed, time, distance problems.
- Basic geometric concepts. Angles.
- Sum of angles of a triangle and a polygon.
- Quadrilaterals: parallelogram, rectangle, square, rhombus.
- Areas. Area of triangle, trapezoid, parallelogram.
- Negative numbers. Addition, subtraction, comparison. Absolute values. Multiplication and division of negative numbers.
- Distributivity. Opening the parentheses.
- Solving basic equations, including ones with negative numbers.

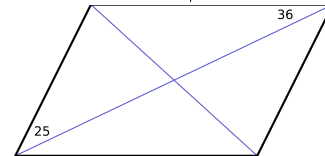
PROBLEMS

1. A boat has speed of 8 miles per hour (mph).
 - (a) Two towns, A and B, are on the shores of a lake. How long would it take the boat to go from A to B and back if the distance between the towns is 10 miles?
 - (b) Two other towns, C and D, also 10 miles apart, are on a river: C is upstream, D is downstream. The river flows at the speed of 2 mph. How long will it take the boat to go from C to D? from D to C?

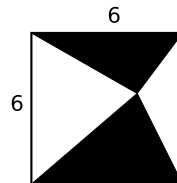
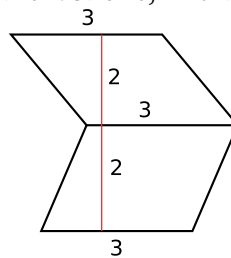
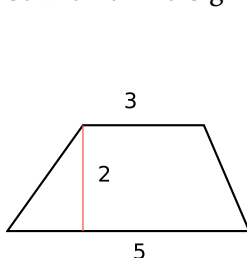
2. In the figure on the right, $\angle a = 30^\circ$ and $\angle b$ is the right angle. Can you find the sizes of all other angles in the figure?



3. Two of the angles between the diagonal and the side in parallelogram $ABCD$ are marked. Can you find all other angles – including the angles between sides and diagonals, and the angles between diagonals?



4. Compute the area of the figures below. The picture is not to scale, so do not try measuring the lengths - use the numbers given. In the last one, find the area of the shaded part.



5. Compute:

(a) $(-7) + (-9) =$

(b) $3 + (-6) + (-7) =$

(c) $(-3) + 5 + (-7) =$

6. Compute:

(a) $(-6) \div (-2) + 3$

(b) $(-2) \div (-3)$

(c) $(-4) \times (-7) \div 9$

7. Solve the following equations:

(a) $(-2) \times x = -7$ (b) $(-3) \times x + 2 = x - 18$

8. Simplify the following expressions:

(a) $2(x + y) - 2(x - y)$ (b) $1 - 2(1 - 2(1 - 2x))$

9. Solve the following equations:

(a) $5(x - 2) = 25$ (b) $4x = 2x + 8$ (c) $(-2x) + 3 - (-5x) - (-7) = -(-1)$