Advanced Complete MathSmart®

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SAMPLE

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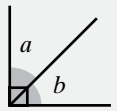
9 Angles

solving a variety of word problems that involve angles and triangles

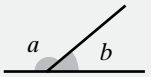
Math Skills

Complementary Angles



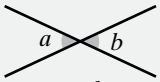
$a + b = 90^\circ$

Supplementary Angles



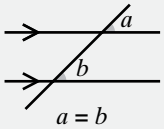
$a + b = 180^\circ$

Opposite Angles



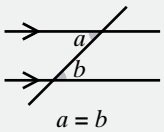
$a = b$

Corresponding Angles



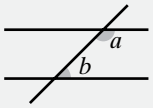
$a = b$

Alternate Angles



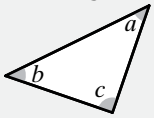
$a = b$

Consecutive Interior Angles

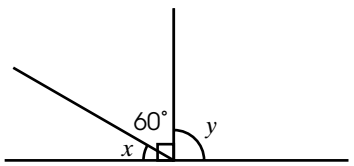


$a + b = 180^\circ$

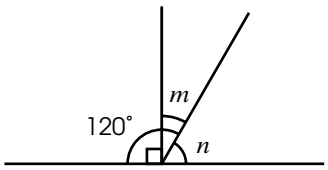
Angles in a Triangle



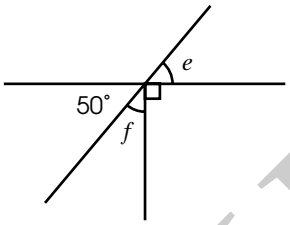
$a + b + c = 180^\circ$

① 

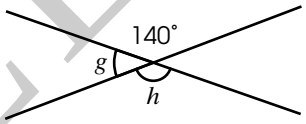
$x =$ _____ $y =$ _____

② 

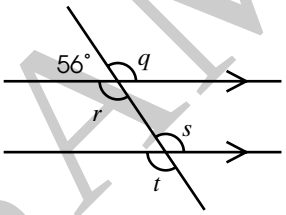
$m =$ _____ $n =$ _____

③ 

$e =$ _____ $f =$ _____

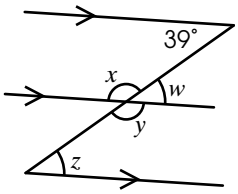
④ 

$g =$ _____ $h =$ _____

⑤ 

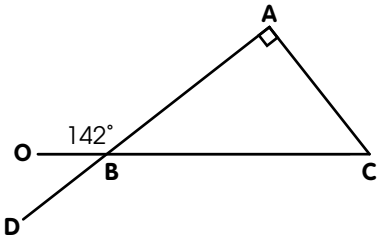
$q =$ _____ $r =$ _____

$s =$ _____ $t =$ _____

⑥ 

$w =$ _____ $x =$ _____

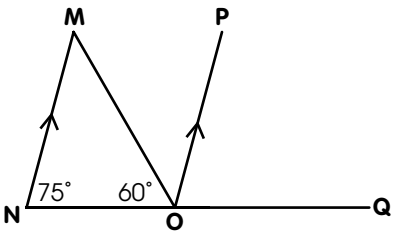
$y =$ _____ $z =$ _____

⑦ 

$\angle ABC =$ _____

$\angle ACB =$ _____

$\angle OBD =$ _____

⑧ 

$\angle NMO =$ _____

$\angle NOP =$ _____

$\angle POQ =$ _____

SAMPLE

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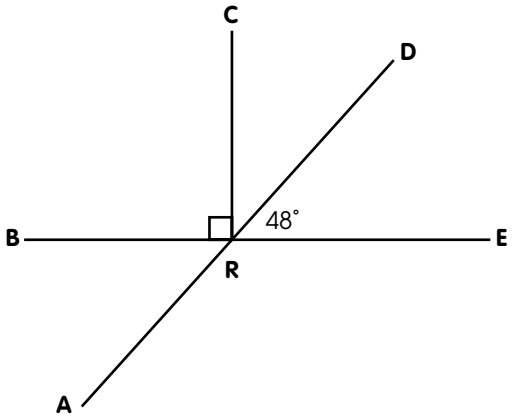
④ A roundabout has 5 exits.



a. What is ∠CRD?

∠CRD is _____ .

b. What is ∠ARE?

∠ARE is _____ .

c. What is the size of the angle that Exit A and Exit C make?

The size of the angle is _____ .

d.

Exit F will be added to the roundabout. It bisects ∠ARE.

Draw to show Exit F. What is ∠ARF?

∠ARF is _____ .

Tips

"Bisect" means "to divide into 2 equal halves."

SAMPLE

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① Leslie has 2 photos that have the same area. One of the photos is a rectangle with a length of 15.68 cm and a width of 12.5 cm. The other photo is a square. What is the perimeter of the square photo?

Area of the rectangular photo: _____ × _____ = _____

Side length of the square photo: $\sqrt{}$ _____ = _____

Perimeter of the square photo: _____ × 4 = _____

The perimeter of the square photo is _____ .

② Alyssa has saved $37.50 in nickels, dimes, and quarters. She has 4 times as many quarters as dimes and 2 times as many nickels as quarters. What fraction of Alyssa's money is in quarters?

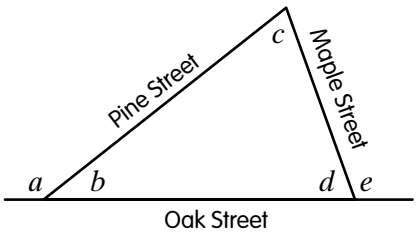
Hints

In a fraction, convert any decimals into whole numbers before simplifying.

$$\frac{1}{1.5} \overset{\times 10}{=} \frac{10}{15}$$

③ Three streets intersect as shown. Robert found the ratios of the angles that Pine Street and Maple Street make with Oak Street as given in the diagram. What is c?

*not drawn to scale



$a:b = 3:2$ $d:e = 4:5$

Topics covered:

Question 1
- square roots
- measurement

Question 2
- fractions
- decimals
- algebra

Question 3
- ratios
- angles

SAMPLE

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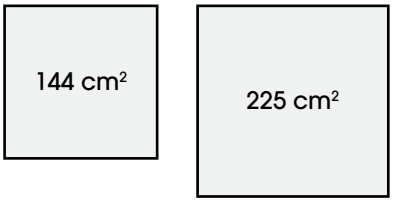
④ Agnes has 2 square tiles to choose from for tiling a square shower stall floor. What is the smallest possible area of the floor if it can be tiled by either kind of square tile? How many more small tiles than big tiles are needed?

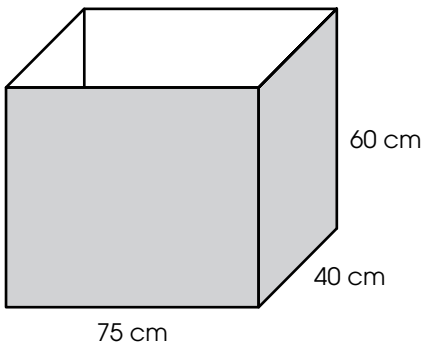


⑤ Chris has 3 cards labelled -5, -2, and 3. He randomly picks 1 card, puts it back, and then randomly picks another. If he multiplies the numbers on the cards he picks, what is the probability that he will get a product that is less than -5?

Hints

Use a tree diagram or a table to find the outcomes.

⑥ Kaitlyn wants to paint the outside of an open box. One can has 2.4 L of paint and 2 mL of paint covers 10 cm² of a surface. How many cans of paint will Kaitlyn use?



Topics covered:

Question 4
- multiples
- square roots
- measurement

Question 5
- integers
- probability

Question 6
- decimals
- measurement

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