Year 9
Weekly Tutorial- 08

mathsalpha.com

1. Expand and simplify.

a) $(x+3)(x-8)$ **b)** $(x+4)(x-2)(x-5)$

2. Factorize.

a) $2x^2+5x$ **b)** $3x^2-8x-35$

3. Solve.

$$3x-2y=7$$
$$5x+3y=36$$

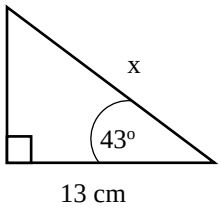
4. Simplify.

a) $\left(\frac{27x^6}{64y^{12}}\right)^{-\frac{2}{3}}$ **b)** $\left(\frac{625}{156}\right)^{-\frac{3}{4}}$

5. Make x the subject. $y=\frac{2x^2+7}{5x^2-11}$

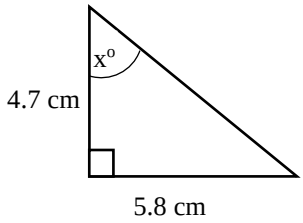
6. Solve. $\frac{3x-5}{2} \geq x+1$

7.



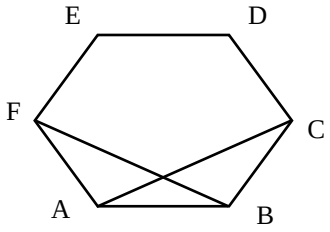
Find the length x, correct to 1dp.

8.



Find the angle x^o, nearest to a degree.

9.



ABCDEF is a regular hexagon. Prove that the triangles ABC and ABF are congruence.

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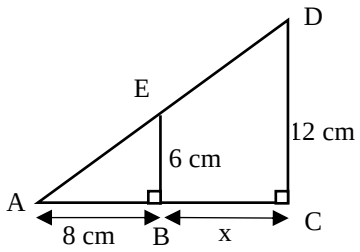
10.



The triangles ABE and ACD are similar. Find x.

11. Natasha wants to invest £ 5000 pounds for 5 years to get maximum interest. She has tow different options, investing in bank A or investing in bank B.

Bank A	**Bank B**
2% Simple interest for up to £ 3000 any money more than £ 300, 1.5% compound interest per Anum.	2% compound interest in first year. 1.2% compound interest for each extra year.

Which bank Natasha should select?

12. Beth's age is 3 years less than to her sister's age this year. Next year, the ratio between Beth's age and her sisters age will be 2 : 3. What is the Beth's age next year?

13. Simplify.

$$3\frac{2}{5} \times 3\frac{3}{4}$$

14. Rationalize the denominator.

$$\frac{2\sqrt{3}+5}{(\sqrt{3}-5)(\sqrt{3}+1)}$$

15. Rationalize the denominator.

$$\frac{\left(\sqrt{5}-2\right)^2}{\sqrt{5}+2}$$

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