

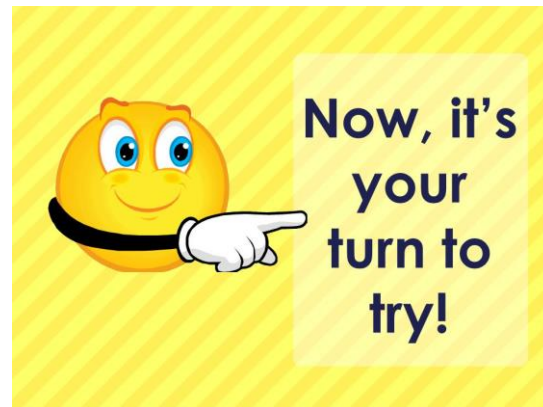
Simplifying fractions

Can you find the
the mistake?
1 2 3 4 5 6 7 8 9

Simplify as far as possible.

$\frac{5a^2b}{40ab^2}$ <i>Solution:</i> $8ab$	$\frac{3h+9}{3h}$ <i>Solution:</i> 9
$\frac{7p}{6} - \frac{p+3}{5}$ <i>Solution:</i> $\frac{35p-6p+18}{30} = \frac{29p+18}{30}$	$\frac{4x^2-9}{2x-3}$ <i>Solution:</i> $\frac{(2x-3)^2}{2x-3} = \frac{(2x-3)(2x-3)}{2x-3} = 2x-3$
$\frac{9y^6z^9}{3y^2b^3}$ <i>Solution:</i> $3y^3z^3$	$\frac{4x-20}{x^2-13x+40}$ <i>Solution:</i> $\frac{4x-20}{(x-8)(x-5)}$
$\frac{m^2-8x}{m^2-64}$ <i>Solution:</i> $\frac{-8x}{-64} = \frac{x}{8}$	$\frac{x^2-5x+6}{x^2-2x-3}$ <i>Solution:</i> $\frac{(x-6)(x+1)}{(x+1)(x-3)} = \frac{x-6}{x-3}$

Simplifying fractions



Simplify as far as possible.

Skill 5

$$1) \frac{2x+1}{2} - \frac{3x+1}{5} =$$

$$2) \frac{7x+4}{2} - \frac{2x-1}{7} =$$

Skill 6

$$1) \frac{4}{xy^2} - \frac{x}{y} =$$

$$2) \frac{3x}{x^2} + \frac{2y}{yx} =$$

Skill 1

$$1) \frac{5y^2}{y} \quad 2) \frac{8x^2}{2x^2} \quad 3) \frac{2x}{4y}$$

$$4) \frac{6y}{3y} \quad 5) \frac{5ab}{10b} \quad 6) \frac{(2a)^2}{4a}$$

Skill 2

Simplify the following algebraic fractions.
(Hint - factorise into single brackets first)

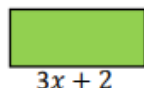
$$1) \frac{12x-4}{36x+4} \quad 2) \frac{5x+15}{7x+21} \quad 3) \frac{6x^2+9x}{4x+6} \quad 4) \frac{4p+8q}{p^2+2pq}$$

$$5) \frac{3c-c^2}{c^2} \quad 6) \frac{w}{w^2-2w} \quad 7) \frac{4b^2}{2ab-8b^2} \quad 8) \frac{3mn}{m^2n-mn^2}$$

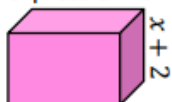
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Stretch 2

1) The area of the rectangle is $6x^2 + 19x + 10$.
What is the height?



2) The volume of the box is represented by the expression $(x^2 + 5x + 6)(x + 5)$. Write an expression for the area of the base.



3) Prove that $\frac{x^2-9}{4x+12} = \frac{(x-3)}{4}$

Stretch 1

$$1) \frac{4w^2-5w+1}{w^2+4w-5}$$

$$2) \frac{q^2-q-20}{2q^2+7q-4}$$

$$3) \frac{2h^2+h-3}{6h^2+7h-3}$$

$$4) \frac{2a+9ab-5b^2}{a^2+4ab-5b^2}$$

Skill 4

$$1) \frac{r^2-4}{r^2+2r-8} \quad 2) \frac{w^2+5w-24}{w^2-6w+9} \quad 3) \frac{t^2+4t-12}{t^2-4}$$

$$4) \frac{n^2-16}{n^2+3n-4} \quad 5) \frac{y^2-11y+24}{y^2-7y-8} \quad 6) \frac{x^2+7x+12}{x^2+8x+15}$$

$$7) \frac{12x-4}{36x+4} \quad 8) \frac{y^2-9}{y^2-8y+15} \quad 9) \frac{p^2+3p+2}{p^2-p-6}$$

Skill 3

$$1) \frac{t^2-9}{4t+12} \quad 2) \frac{3y-12}{y^2-16}$$

$$3) \frac{w+5}{w^2-25} \quad 4) \frac{x^2+5x+6}{3x+9}$$

$$5) \frac{t^2+7t+12}{2t^2+8t} \quad 6) \frac{3y^2+12y}{y^2+5y+4}$$