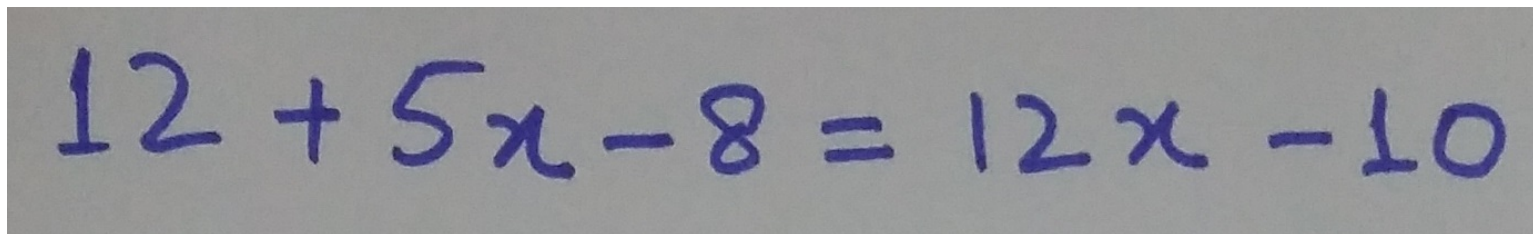


algebra.jpg

Input image:

A photograph of a piece of paper with the equation $12 + 5x - 8 = 12x - 10$ written in blue ink.

Input options:

ocr: ['math']

Output rendered latex:

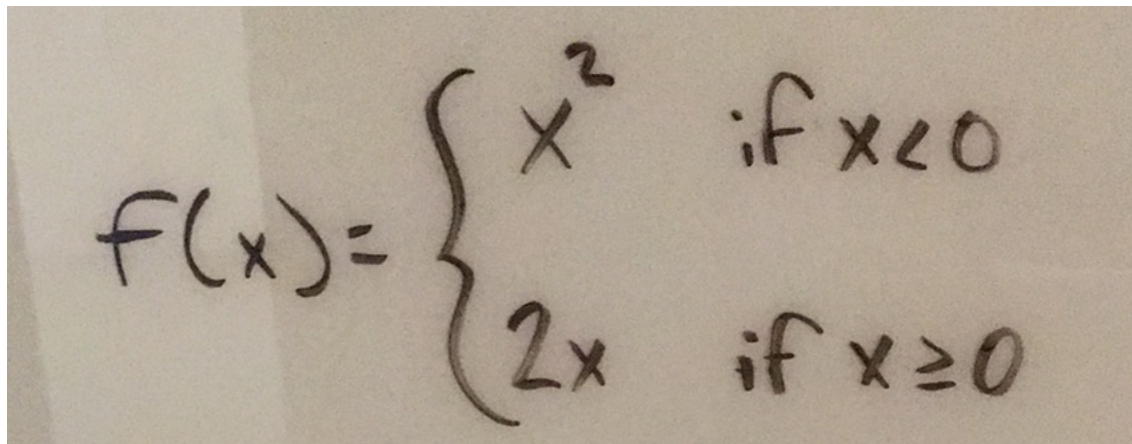
$$12 + 5x - 8 = 12x - 10$$

Output latex markup:

`12+ 5x - 8= 12x - 10`

cases_hw.jpg

Input image:

A photograph of a piece of paper with the piecewise function $f(x) = \begin{cases} x^2 & \text{if } x < 0 \\ 2x & \text{if } x \geq 0 \end{cases}$ written in black ink.

Input options:

ocr: ['math']

Output rendered latex:

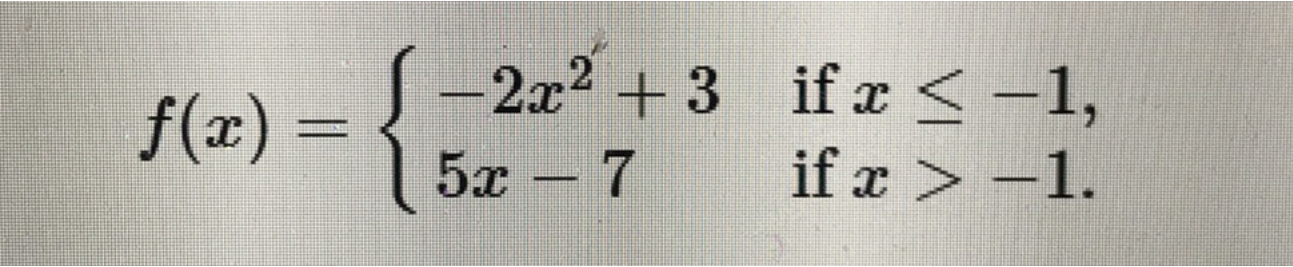
$$f(x) = \begin{cases} x^2 & \text{if } x < 0 \\ 2x & \text{if } x \geq 0 \end{cases}$$

Output latex markup:

`f (x) = \left\{ \begin{array} { l l } { x ^ { 2 } } & { \text{ if } x < 0 } \\ { 2x } & { \text{ if } x \geq 0 } \end{array} \right.`

cases_printed_1.jpg

Input image:



A photograph of a piece of paper with a handwritten piecewise function. The function is defined as $f(x) = \begin{cases} -2x^2 + 3 & \text{if } x \leq -1, \\ 5x - 7 & \text{if } x > -1. \end{cases}$. The handwriting is in black ink on a light-colored background.

Input options:

ocr: ['math']

Output rendered latex:

$$f(x) = \begin{cases} -2x^2 + 3 & \text{if } x \leq -1 \\ 5x - 7 & \text{if } x > -1 \end{cases}$$

Output latex markup:

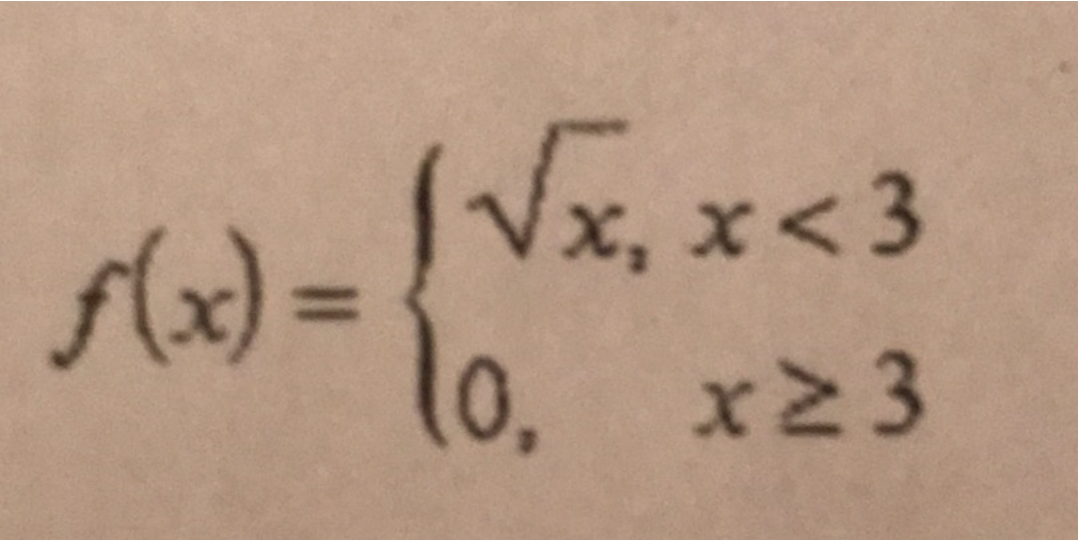
f (x) = \left\{ \begin{array}{l} - 2x ^ { 2} + 3 \\ 5x - 7 \end{array} \right. \begin{array}{l} \text{ if } x \leq - 1 \\ \text{ if } x > - 1 \end{array}

Output detection_list :

is_printed

cases_printed_2.jpg

Input image:



A photograph of a piece of paper with a handwritten piecewise function. The function is defined as $f(x) = \begin{cases} \sqrt{x}, & x < 3 \\ 0, & x \geq 3 \end{cases}$. The handwriting is in black ink on a light-colored background.

Input options:

ocr: ['math']

Output rendered latex:

$$f(x) = \begin{cases} \sqrt{x}, & x < 3 \\ 0, & x \geq 3 \end{cases}$$

Output latex markup:

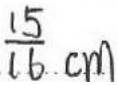
```
f ( x ) = \left\{ \begin{array} { l l } { \sqrt { x } } { , } & { \{ x < 3 \} } \\ { 0 , } & { \{ x \geq 3 \} } \end{array} \right.
```

Output detection_list :

```
is_printed
```

cm_hw.jpg

Input image:



Input options:

```
ocr: ['math']
```

Output rendered latex:

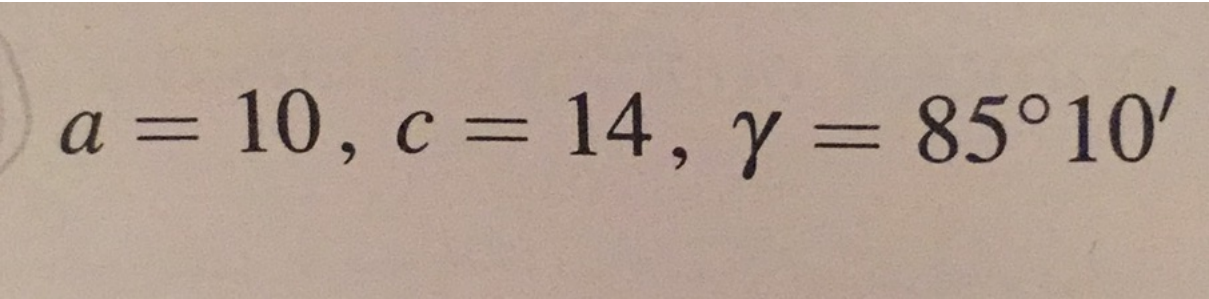
$$\frac{15}{16} \text{ cm}$$

Output latex markup:

```
\frac { 15 } { 16 } \text{ cm }
```

degrees_printed_0.jpg

Input image:



Input options:

```
ocr: ['math']
```

Output rendered latex:

$$a = 10, c = 14, \gamma = 85^{\circ}10'$$

Output latex markup:

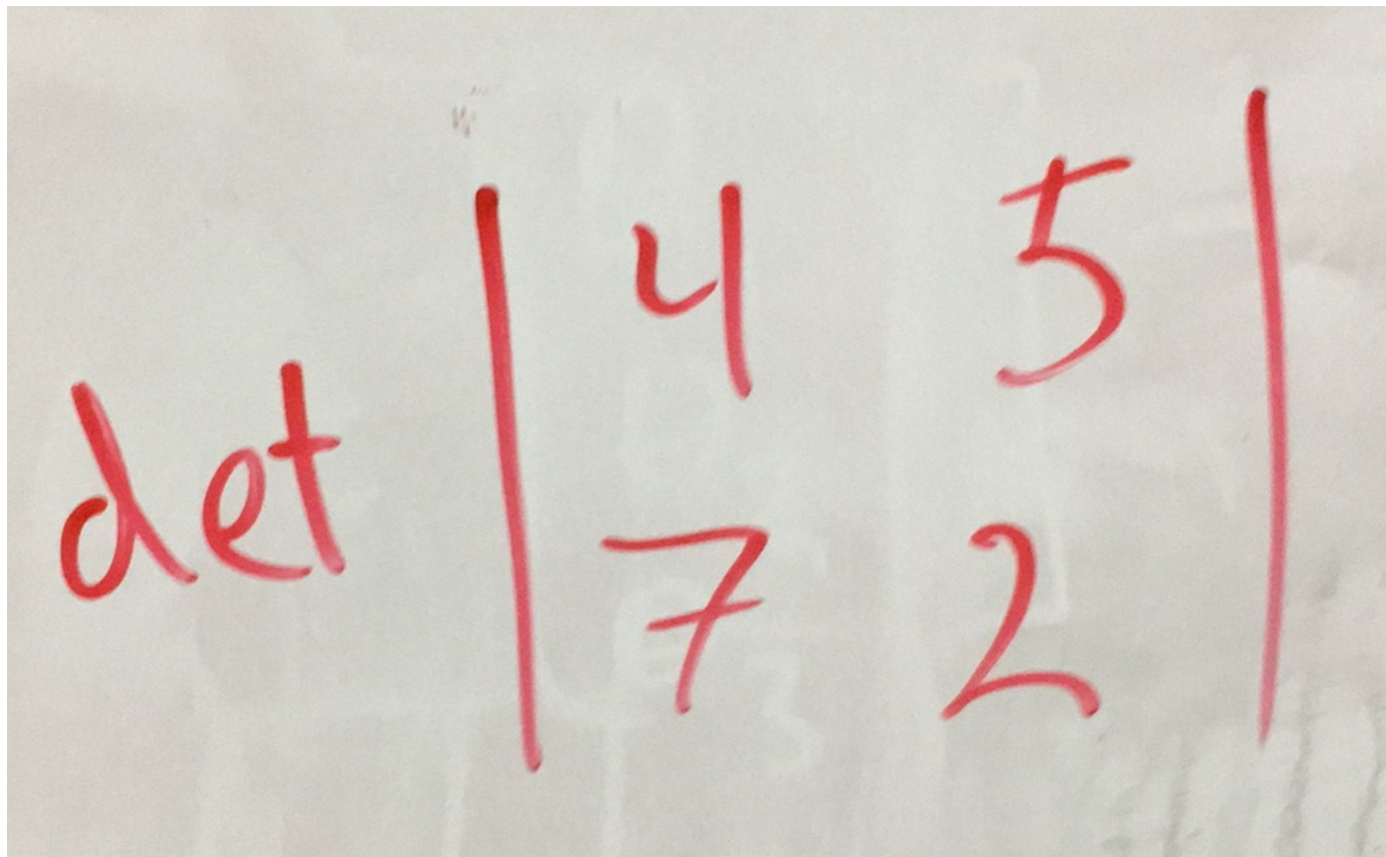
```
a = 10,c = 14,\gamma = 85^ { \circ } 10^ { \prime }
```

Output detection_list :

```
is_printed
```

determinant.jpg

Input image:



Input options:

ocr: ['math']

Output rendered latex:

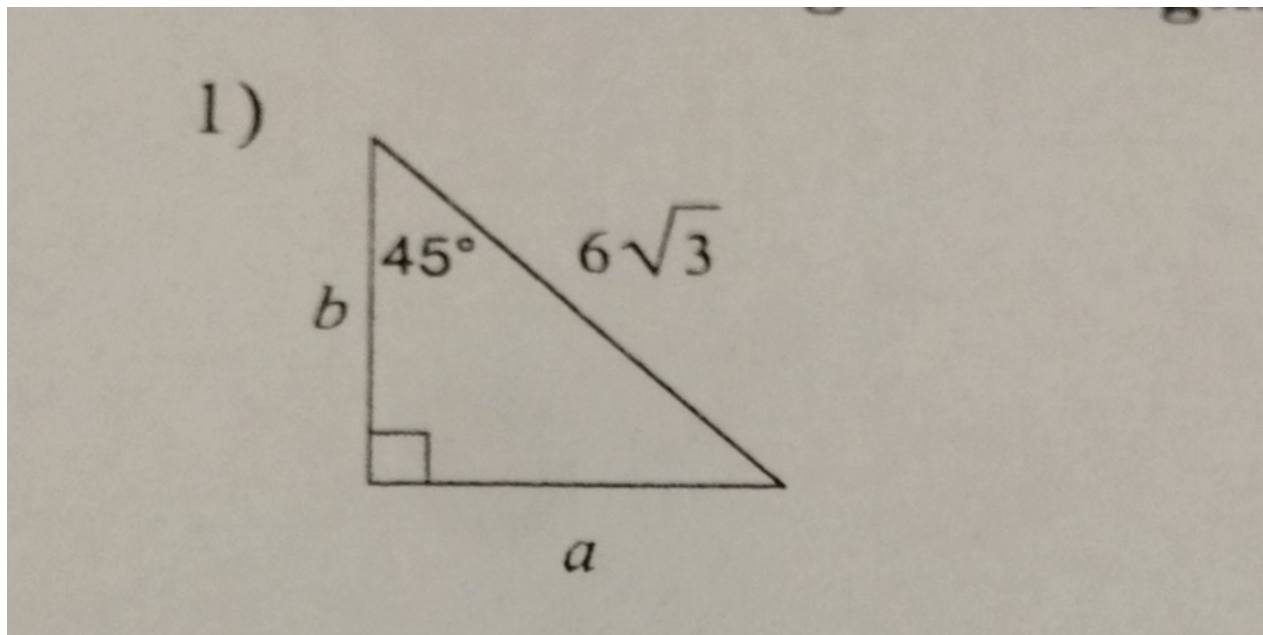
$$\det \begin{vmatrix} 4 & 5 \\ 7 & 2 \end{vmatrix}$$

Output latex markup:

`\operatorname{det} \left| \begin{array}{cc} 1 & 1 \end{array} \right\{ 4 \} \& \{ 5 \} \backslash \{ 7 \} \& \{ 2 \} \end{array} \right|`

diagram.jpg

Input image:



Input options:

ocr: ['math']

Output **detection_list** :

contains_diagram,contains_geometry,is_printed

dog.jpg

Input image:



Input options:

```
ocr: ['math']
```

Output `detection_list` :

```
is_not_math,is_blank
```

`foreign_printed_0.jpg`

Input image:

次の定積分の値を求めよ.

(1) $\int_0^1 x e^{2x-1} dx$

Input options:

ocr: ['math']

Output rendered latex:

$$\int_0^1 x e^{2x-1} dx$$

Output latex markup:

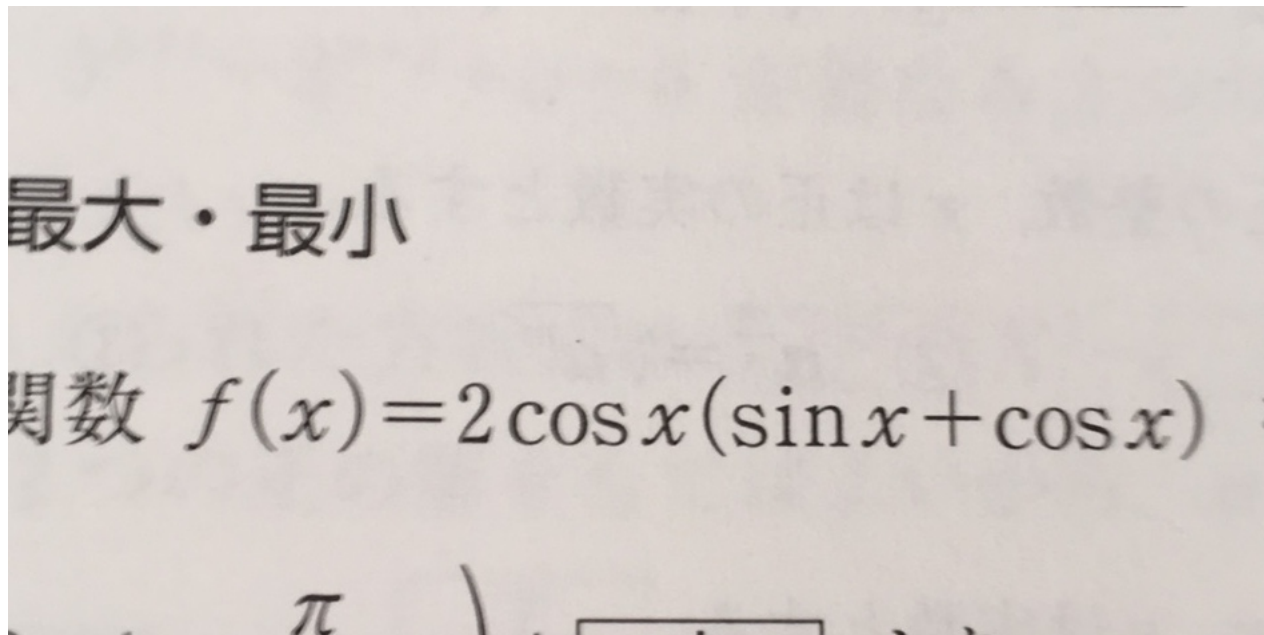
`\int_{0}^{1} x e^{2x-1} dx`

Output **detection_list**:

is_printed

foreign_printed_1.jpg

Input image:



Input options:

```
ocr: ['math']
```

Output rendered latex:

$$f(x) = 2 \cos x (\sin x + \cos x)$$

Output latex markup:

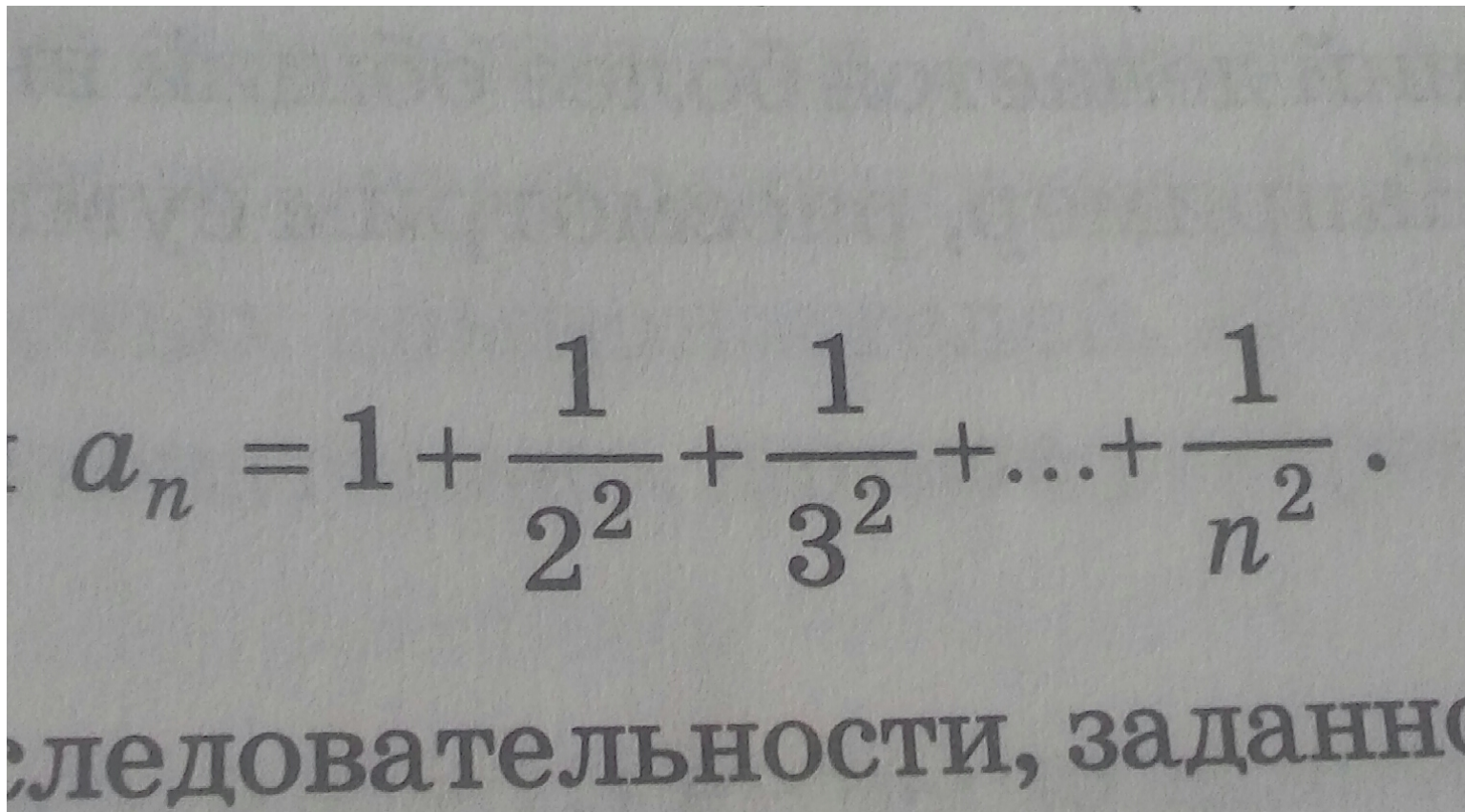
```
f ( x ) = 2\operatorname{cos} x ( \operatorname{sin} x + \operatorname{cos} x )
```

Output `detection_list` :

```
is_printed
```

`foreign_printed_2.jpg`

Input image:


$$a_n = 1 + \frac{1}{2^2} + \frac{1}{3^2} + \dots + \frac{1}{n^2}.$$

следовательности, заданно

Input options:

```
ocr: ['math']
```

Output rendered latex:

$$a_n = 1 + \frac{1}{2^2} + \frac{1}{3^2} + \dots + \frac{1}{n^2}$$

Output latex markup:

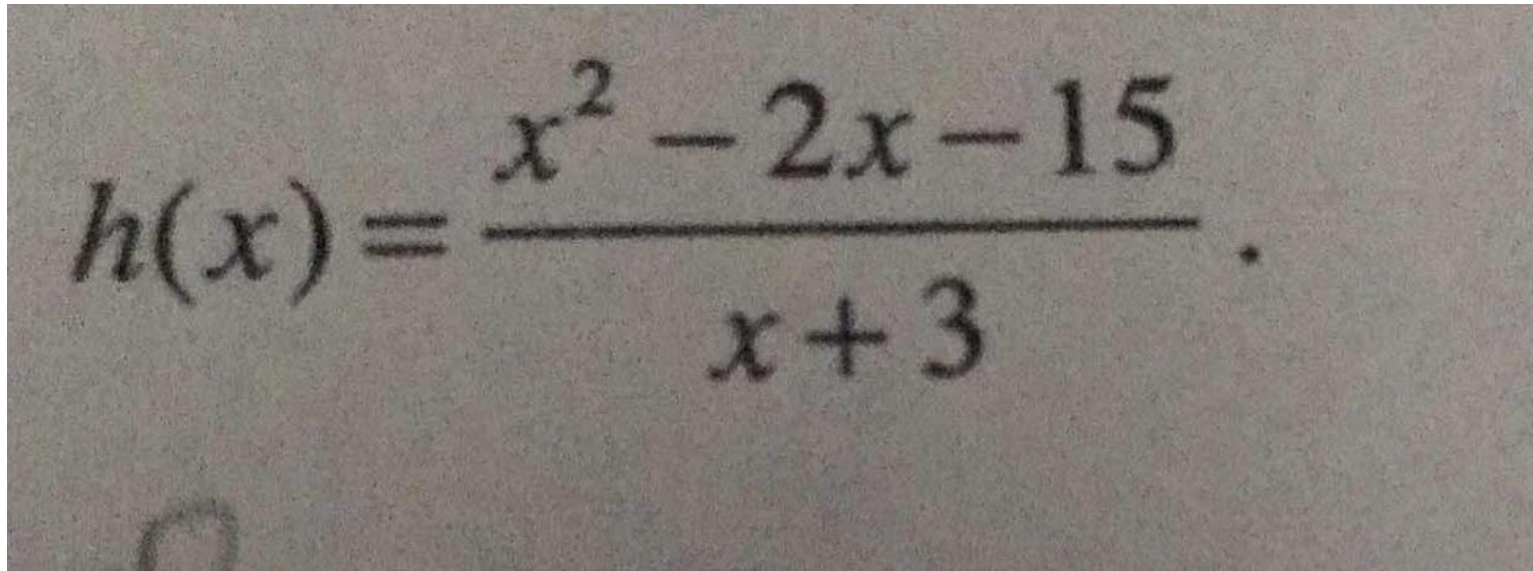
```
a _ { n } = 1+ \frac { 1 } { 2 ^ { 2 } } + \frac { 1 } { 3 ^ { 2 } } + \dots + \frac { 1 } { n ^ { 2 } }
```


Output `detection_list` :

`is_printed`

`fraction.jpg`

Input image:



Input options:

`ocr: ['math']`

Output rendered latex:

$$h(x) = \frac{x^2 - 2x - 15}{x + 3}$$

Output latex markup:

`h (x) = \frac { x ^ { 2 } - 2 x - 15 } { x + 3 }`

Output `detection_list` :

`is_printed`

`grading_0.jpg`

Input image:

[0,4)

Input options:

`ocr: ['math']`

Output rendered latex:

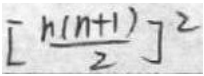
$[0, 4)$

Output latex markup:

[0,4)

grading_1.jpg

Input image:



Input options:

ocr: ['math']

Output rendered latex:

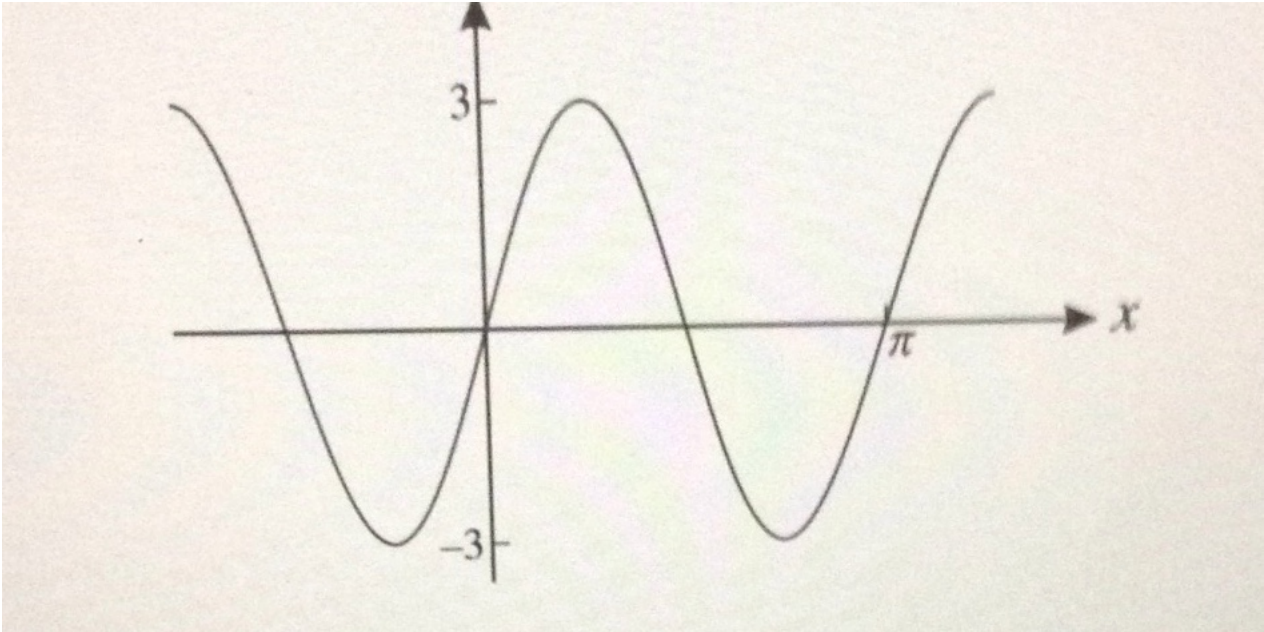
$$[\frac{n(n+1)}{2}]^2$$

Output latex markup:

[\frac { n (n + 1) } { 2 }] ^ { 2 }

graph.jpg

Input image:



Input options:

ocr: ['math']

Output **detection_list** :

contains_diagram,contains_geometry,is_printed

hline_hw_0.jpg

Input image:

A photograph of a handwritten subtraction problem on a piece of paper. The number 2000 is written above 1999, with a minus sign to the left of 1999. A horizontal line is drawn below the numbers.

Input options:

ocr: ['math']

Output rendered latex:

$$\begin{array}{r} 2000 \\ -1999 \\ \hline \end{array}$$

Output latex markup:

```
\left.\begin{array}{r} 2000 \\ -1999 \\ \hline \end{array}\right.
```

hline_hw_1.jpg

Input image:

A photograph of a handwritten division problem on a piece of paper. The number 12 is written to the left of 144, with a horizontal line above 144.

Input options:

ocr: ['math']

Output rendered latex:

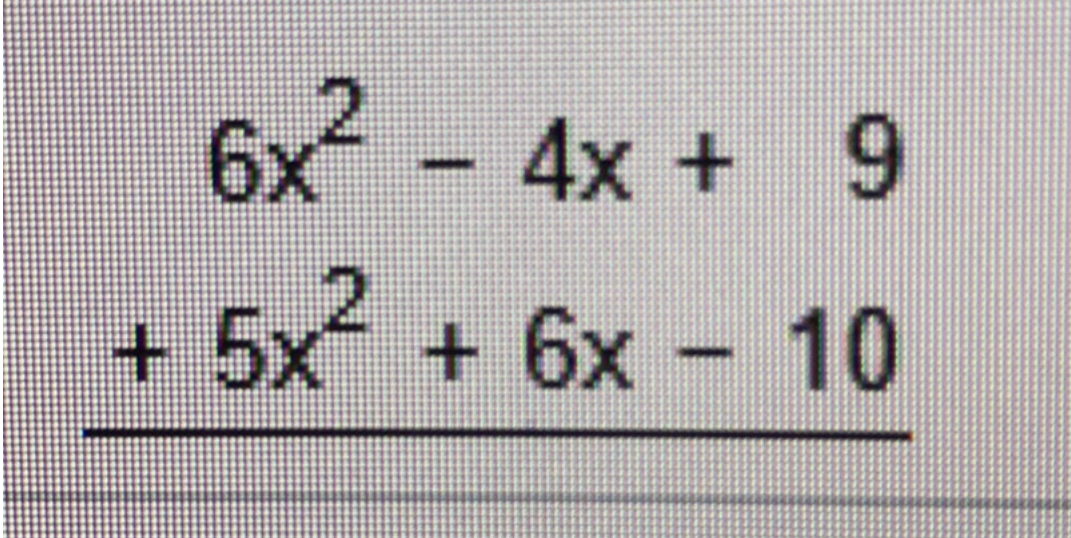
$$12 \overline{)144}$$

Output latex markup:

12\longdiv { 144}

hline_printed_0.jpg

Input image:



A photograph of a handwritten mathematical expression on a grid background. The expression consists of two rows of polynomials separated by a horizontal line. The first row is $6x^2 - 4x + 9$ and the second row is $+ 5x^2 + 6x - 10$. The handwriting is in black ink.

Input options:

ocr: ['math']

Output rendered latex:

$$\begin{array}{r} 6x^2 - 4x + 9 \\ + 5x^2 + 6x - 10 \\ \hline \end{array}$$

Output latex markup:

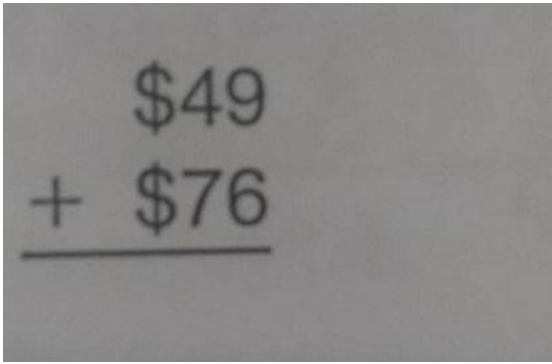
\left.\begin{array}{r} { 6x ^ { 2} - 4x + 9} \\ { + 5x ^ { 2} + 6x - 10} \end{array} \right\} \hline \end{array} \right.

Output detection_list :

is_printed

hline_printed_1.jpg

Input image:



Input options:

ocr: ['math']

Output rendered latex:

$$\begin{array}{r} \$49 \\ + \$76 \\ \hline \end{array}$$

Output latex markup:

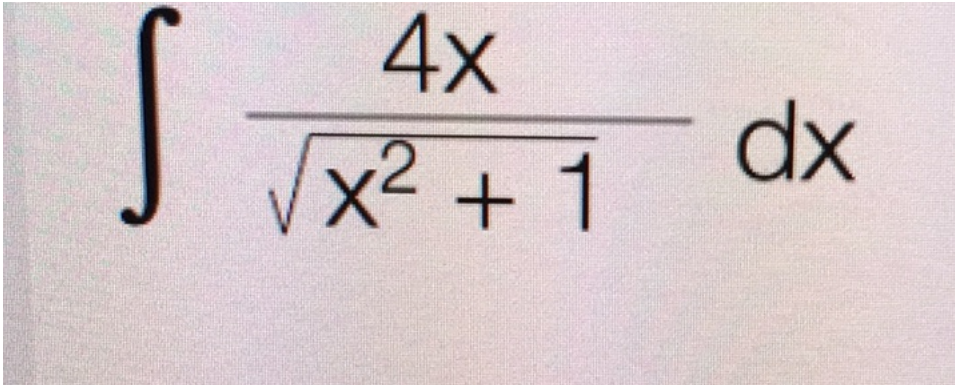
```
\left.\begin{array}{r}{\$49}\\{+ \quad \$76}\\{\hline}\end{array}\right.
```

Output **detection_list** :

is_printed

integral.jpg

Input image:



Input options:

ocr: ['math']

Output rendered latex:

$$\int \frac{4x}{\sqrt{x^2 + 1}} dx$$

Output latex markup:

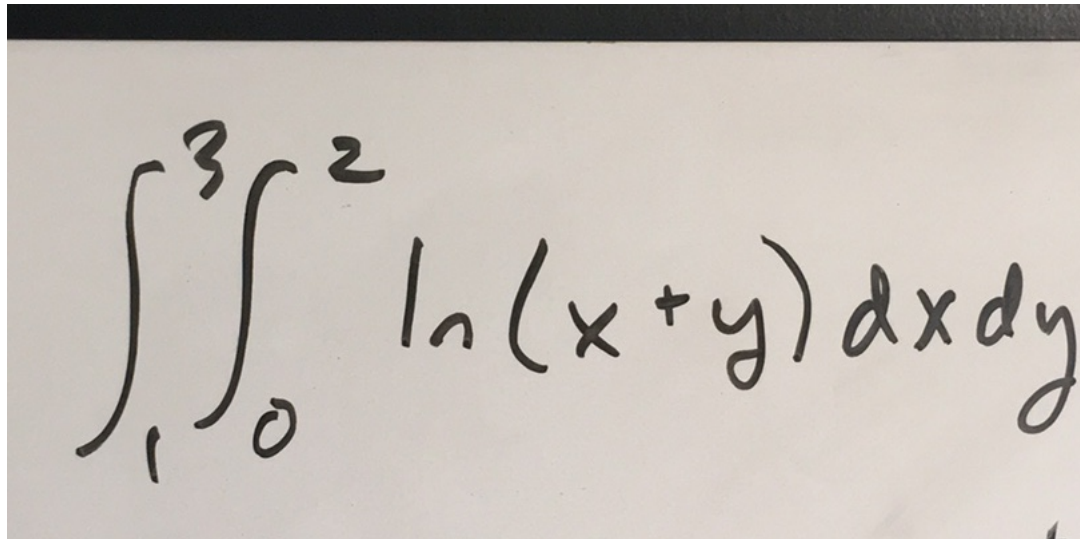
```
\int \frac { 4x } { \sqrt { x ^ { 2} + 1} } d x
```

Output `detection_list` :

`is_printed`

`integral_2.jpg`

Input image:



Input options:

`ocr: ['math']`

Output rendered latex:

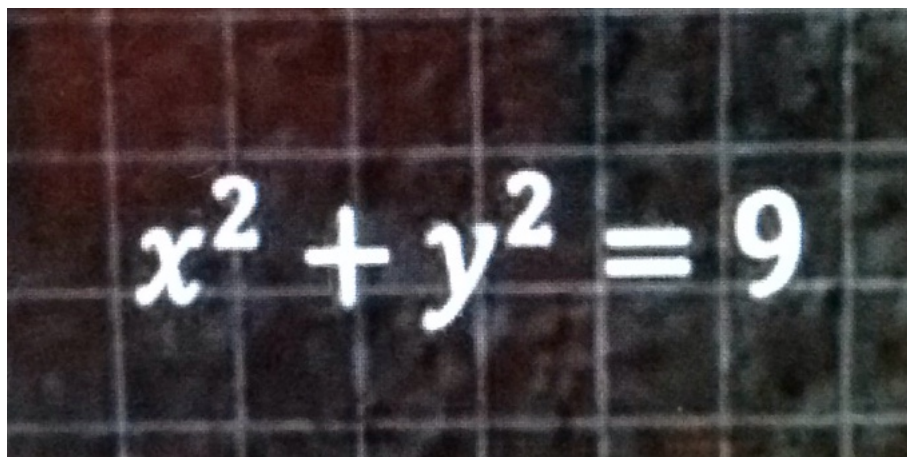
$$\int_1^3 \int_0^2 \ln(x+y) dx dy$$

Output latex markup:

`\int _ { 1 } ^ { 3 } \int _ { 0 } ^ { 2 } \operatorname{ln} (x + y) d x d y`

`inverted.jpg`

Input image:



Input options:

```
ocr: ['math']
```

Output rendered latex:

$$x^2 + y^2 = 9$$

Output latex markup:

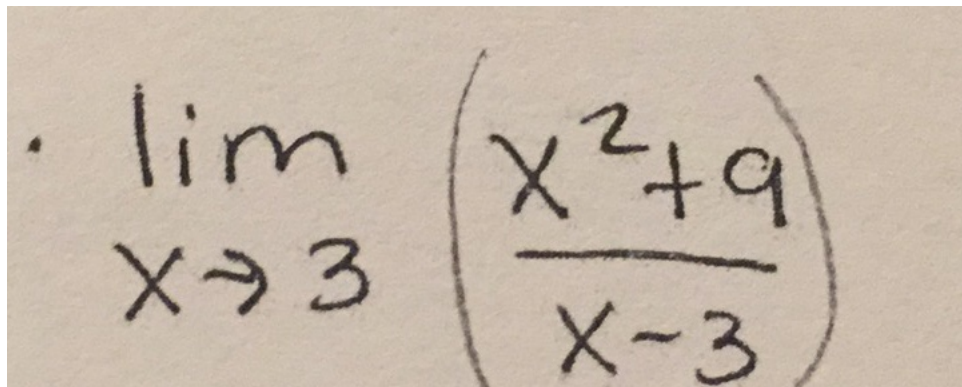
```
x ^ { 2 } + y ^ { 2 } = 9
```

Output `detection_list` :

```
is_inverted,is_printed
```

limit.jpg

Input image:

A photograph of a piece of paper with handwritten mathematical notation in black ink. The expression is the limit of a rational function as x approaches 3. The limit is written as 'lim' followed by 'x → 3' below it. The function is enclosed in large parentheses and consists of a fraction where the numerator is 'x^2 + 9' and the denominator is 'x - 3'.

Input options:

```
ocr: ['math']
```

Output rendered latex:

$$\lim_{x \rightarrow 3} \left(\frac{x^2 + 9}{x - 3} \right)$$

Output latex markup:

```
\operatorname{lim} _ { x \rightarrow 3 } ( \frac { x ^ { 2 } + 9 } { x - 3 } )
```

logic_hw_0.jpg

Input image:

A photograph of a piece of paper with the handwritten mathematical expression $(p \vee q)' \wedge q$ in black ink.

Input options:

ocr: ['math']

Output rendered latex:

$$(p \vee q)' \wedge q$$

Output latex markup:

`(p \vee q) ^ { \prime } \wedge q`

long_division.jpg

Input image:

A photograph of a piece of paper showing the handwritten long division $8 \overline{) 7200}$ in black ink.

Input options:

ocr: ['math']

Output rendered latex:

$$8 \overline{) 7200}$$

Output latex markup:

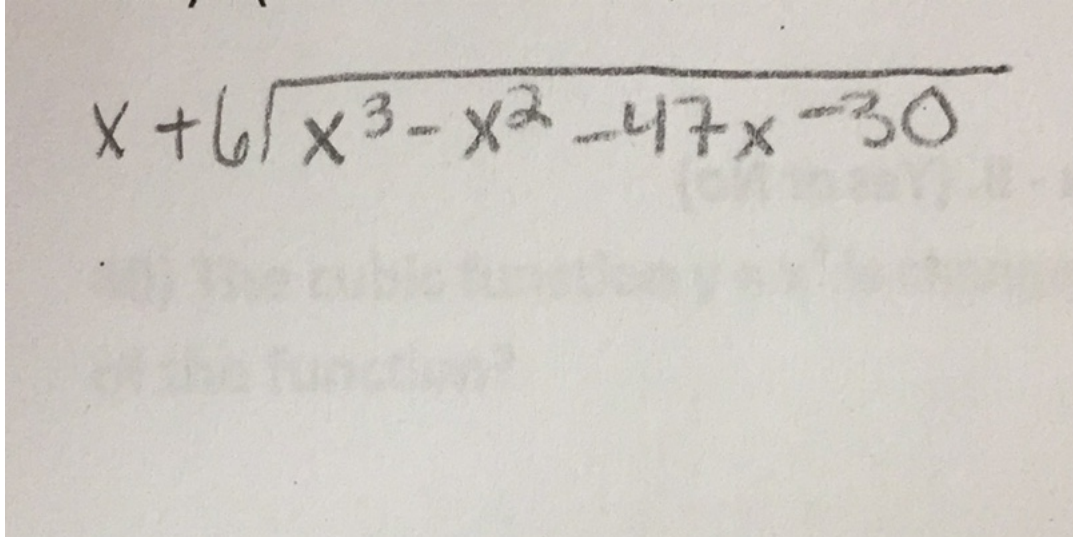
`8 \longdiv { 7200 }`

Output `detection_list` :

`is_printed`

`long_division_2.jpg`

Input image:



Input options:

`ocr: ['math']`

Output rendered latex:

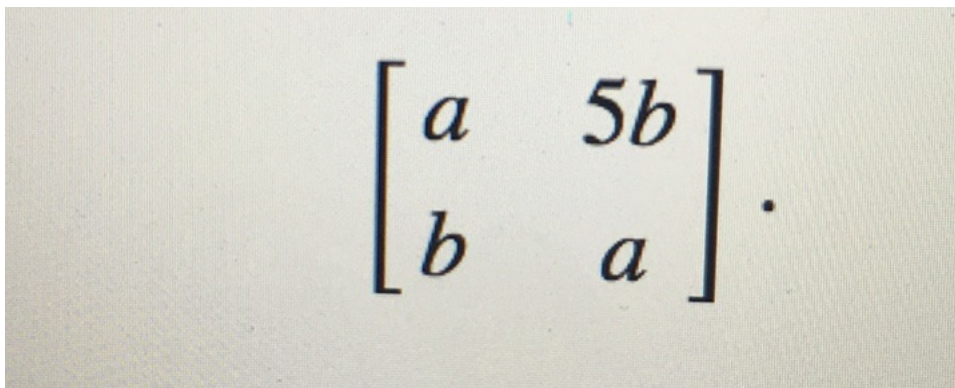
$$x + 6 \overline{) x^3 - x^2 - 47x - 30}$$

Output latex markup:

`x + 6 \longdiv { x ^ { 3 } - x ^ { 2 } - 47x - 30 }`

`matrix_2x2.jpg`

Input image:



Input options:

`ocr: ['math']`

Output rendered latex:

$$\begin{bmatrix} a & 5b \\ b & a \end{bmatrix}$$

Output latex markup:

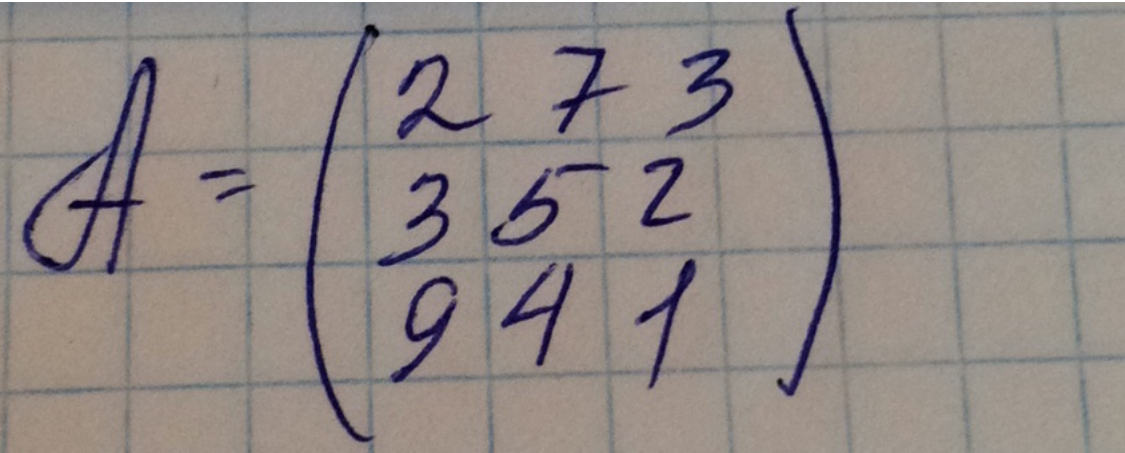
```
\left[ \begin{array} { c c } { a } & { 5b } \\ { b } & { a } \end{array} \right]
```

Output `detection_list` :

```
is_printed
```

`matrix_3x3.jpg`

Input image:



Input options:

```
ocr: ['math']
```

Output rendered latex:

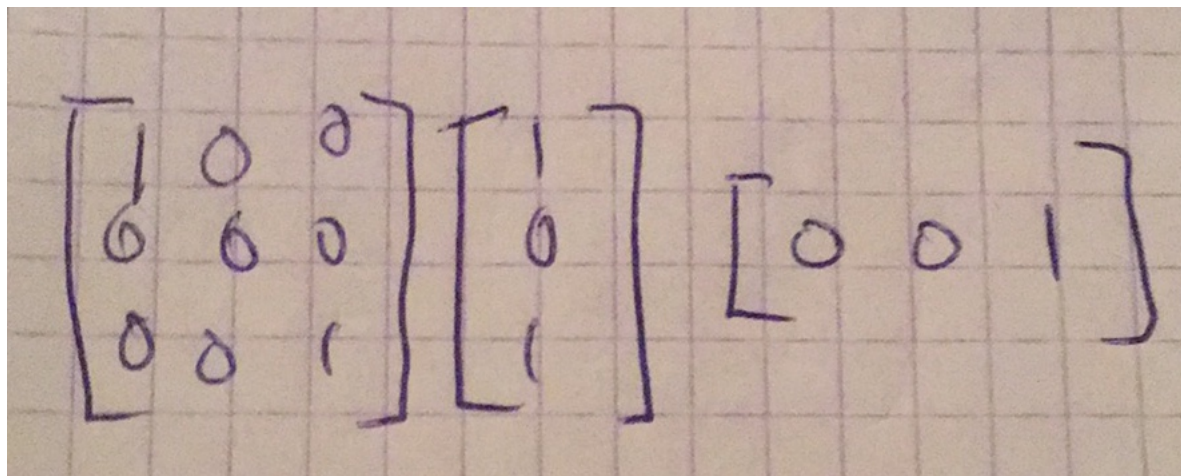
$$A = \begin{pmatrix} 2 & 7 & 3 \\ 3 & 5 & 2 \\ 9 & 4 & 1 \end{pmatrix}$$

Output latex markup:

```
A = \left( \begin{array} { l l l } { 2 } & { 7 } & { 3 } \\ { 3 } & { 5 } & { 2 } \\ { 9 } & { 4 } & { 1 } \end{array} \right)
```

`matrix_multiplication.jpg`

Input image:



Input options:

ocr: ['math']

Output rendered latex:

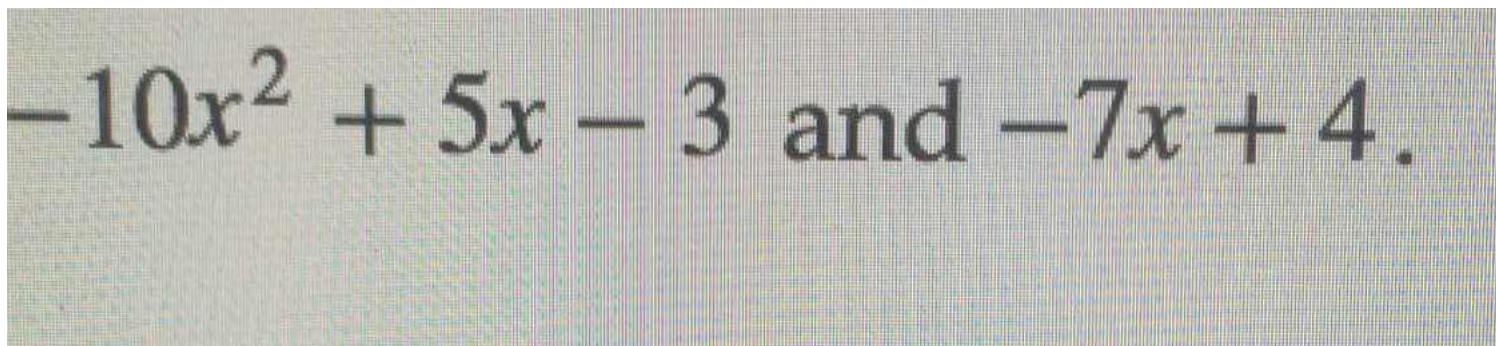
$$\begin{bmatrix} 1 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} 1 \\ 0 \\ 1 \end{bmatrix} = \begin{bmatrix} 0 \\ 0 \\ 1 \end{bmatrix}$$

Output latex markup:

`\left[\begin{array} { l l l } { 1 } & { 0 } & { 0 } \\ { 0 } & { 0 } & { 0 } \\ { 0 } & { 0 } & { 1 } \end{array} \right] \left[\begin{array} { l } { 1 } \\ { 0 } \\ { 1 } \end{array} \right]`

mixed_text_math.jpg

Input image:



Input options:

ocr: ['math', 'text']

Output rendered latex:

$$-10x^2 + 5x - 3 \text{ and } -7x + 4$$

Output latex markup:

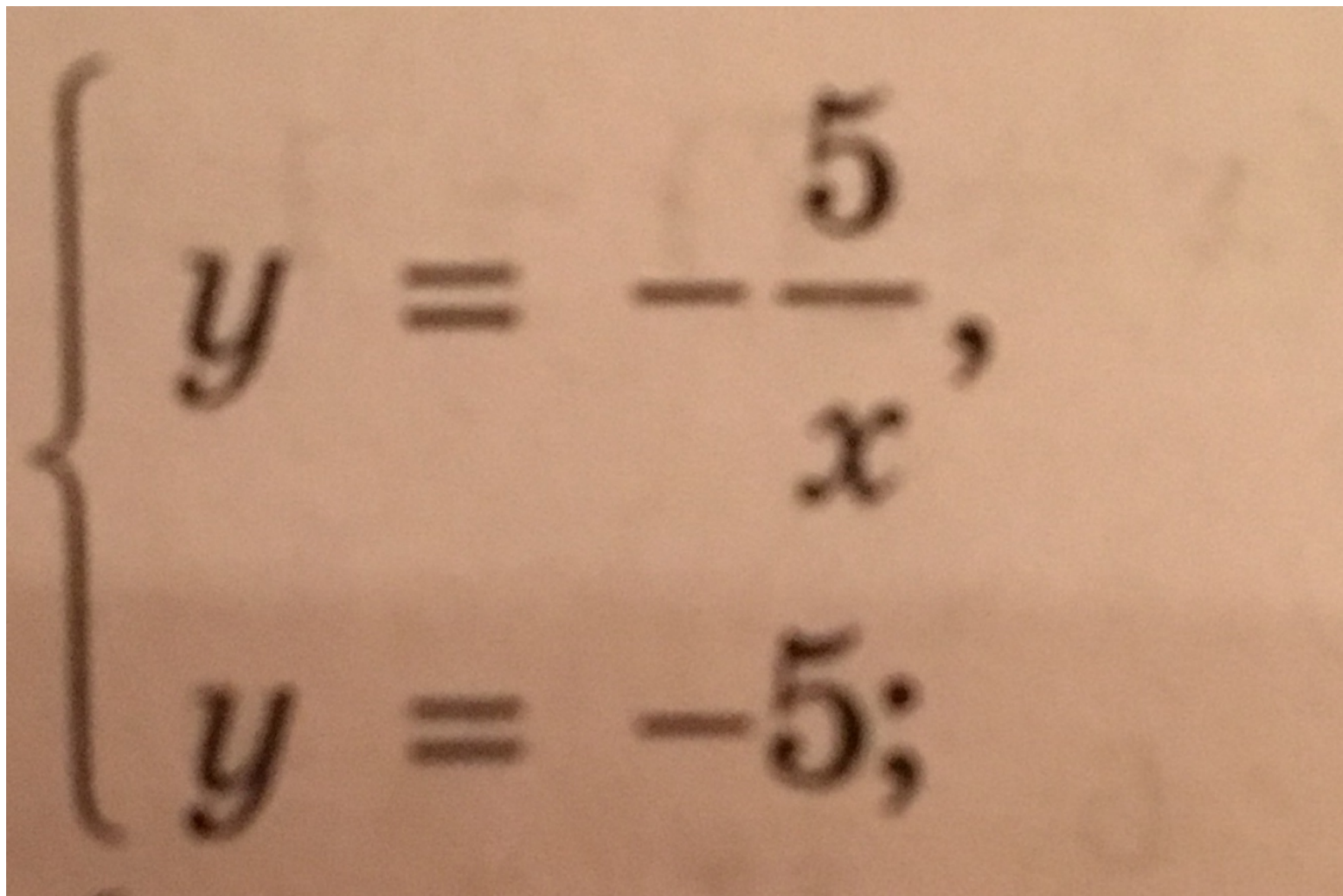
`- 10x ^ { 2 } + 5x - 3 \text{ and } - 7x + 4`

Output **detection_list** :

is_printed

multiple_equations.jpg

Input image:



Input options:

ocr: ['math']

Output rendered latex:

$$\begin{cases} y = -\frac{5}{x} \\ y = -5 \end{cases}$$

Output latex markup:

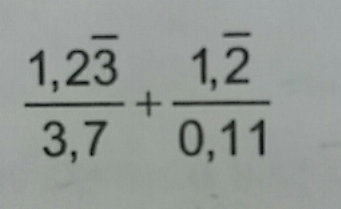
$\left\{ \begin{array}{l} y = -\frac{5}{x} \\ y = -5 \end{array} \right.$

Output **detection_list** :

is_printed

overline_printed.jpg

Input image:



Input options:

ocr: ['math']

Output rendered latex:

$$\frac{1,2\overline{3}}{3,7} + \frac{1,\overline{2}}{0,11}$$

Output latex markup:

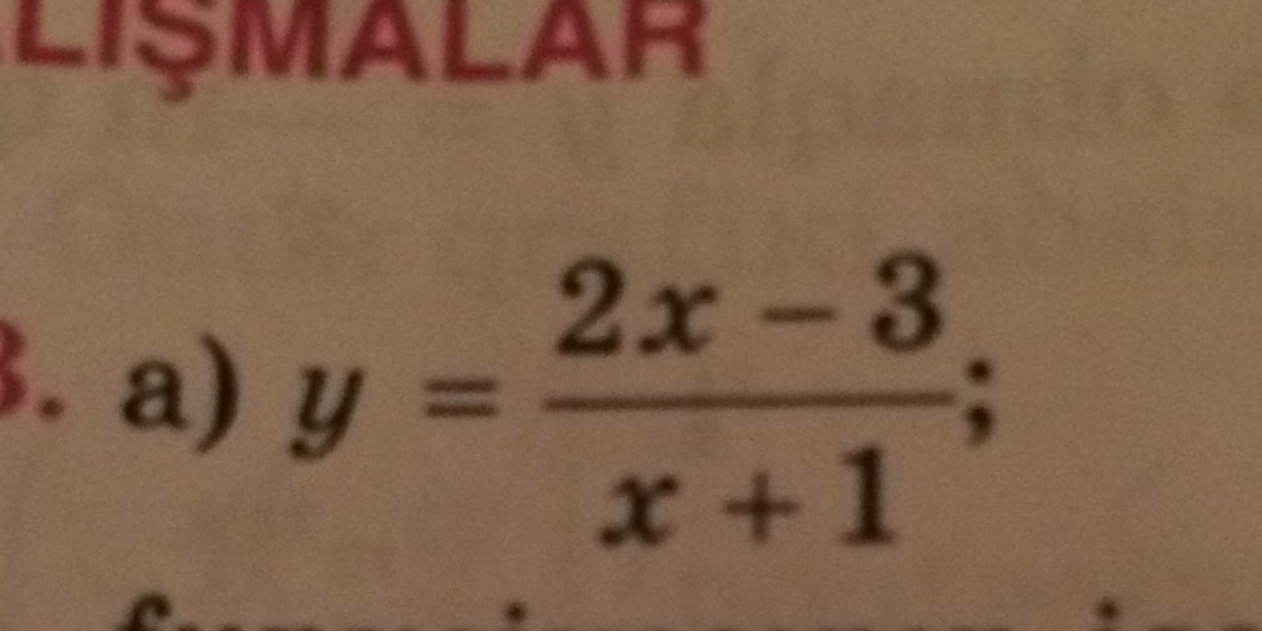
\frac { 1,2\overline { 3 } } { 3,7 } + \frac { 1,\overline { 2 } } { 0,11 }

Output detection_list :

is_printed

problem_number.jpg

Input image:



Input options:

ocr: ['math']

Output rendered latex:

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

Output latex markup:

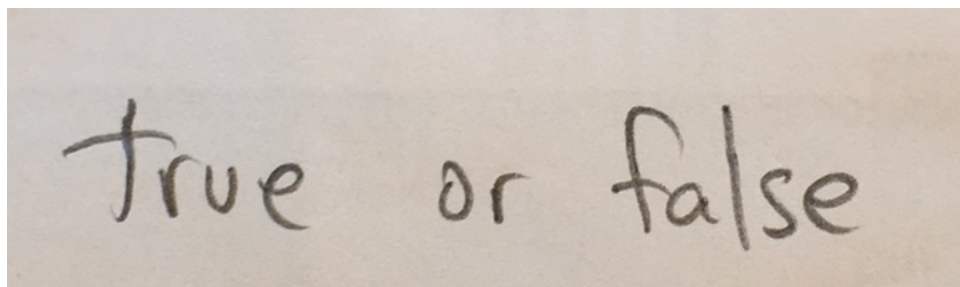
```
y = \frac { 2x - 3 } { x + 1 }
```

Output `detection_list` :

```
is_printed
```

`text_hw_0.jpg`

Input image:



Input options:

```
ocr: ['math', 'text']
```

Output rendered latex:

True or false

Output latex markup:

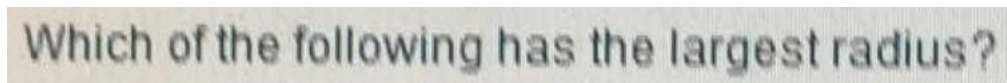
```
\text{ True or false }
```

Output `detection_list` :

```
is_not_math
```

`text_printed_0.jpg`

Input image:



Input options:

```
ocr: ['math', 'text']
```

Output rendered latex:

Which of the following has the largest radius?

Output latex markup:

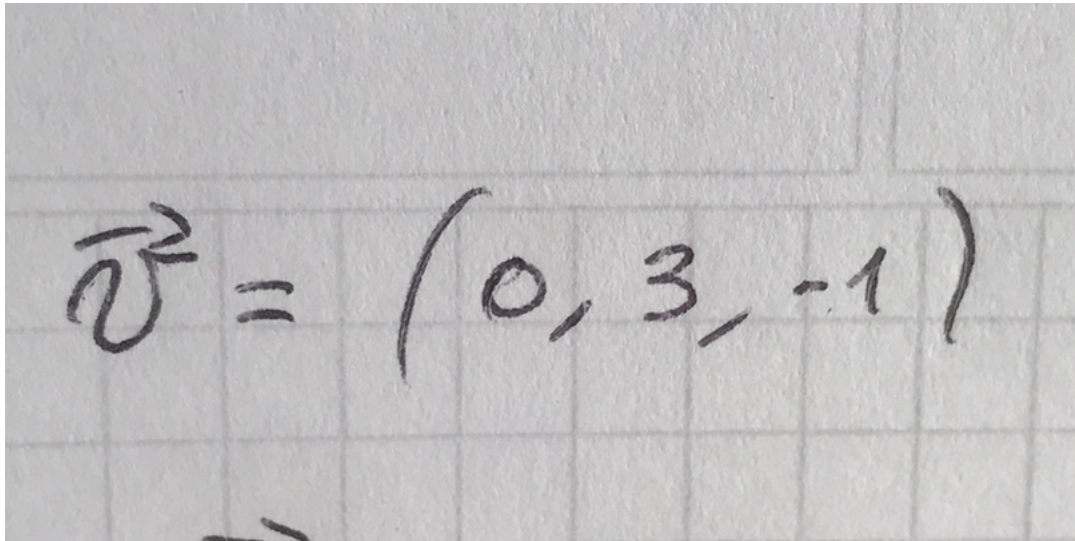
```
\text{ Which of the following has the largest radius? }
```

Output `detection_list` :

```
is_not_math,is_printed
```

vec_hw.jpg

Input image:



Input options:

ocr: ['math']

Output rendered latex:

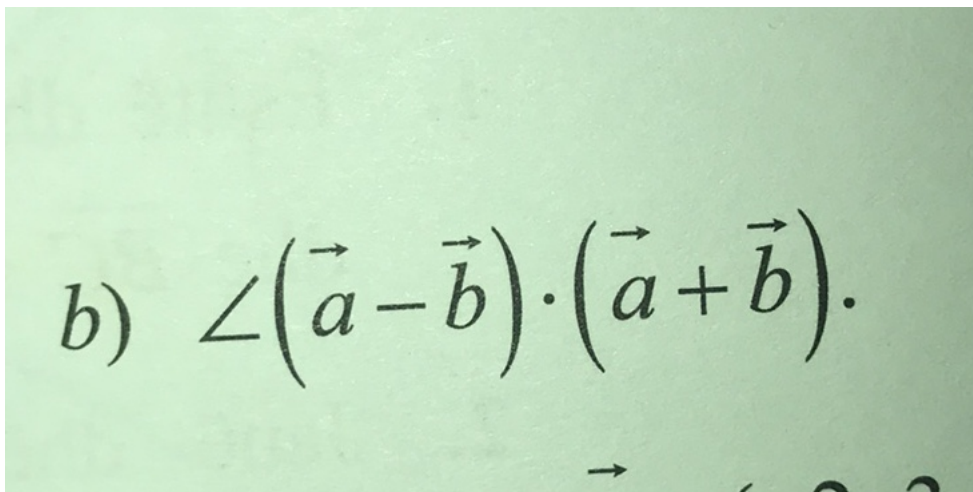
$$\vec{v} = (0, 3, -1)$$

Output latex markup:

`\vec { v } = (0,3,- 1)`

vec_printed_0.jpg

Input image:



Input options:

ocr: ['math']

Output rendered latex:

$$\angle(\vec{a}-\vec{b})\cdot(\vec{a}+\vec{b})$$

Output latex markup:

```
\angle ( \vec { a } - \vec { b } ) \cdot ( \vec { a } + \vec { b } )
```

Output `detection_list` :

```
is_printed
```