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qu.1.topic=Sample-latex-question-types@

qu.1.1.mode=Multiple Choice@
qu.1.1.question=<p class="noindent">What is the capital of California?</p>@
qu.1.1.choice.1=<p class="noindent">San Francisco</p>@
qu.1.1.choice.2=<p class="noindent">Los Angeles</p>@
qu.1.1.choice.3=<p class="noindent">Sacramento</p>@
qu.1.1.info=3 @
qu.1.1.answer=3 @

qu.1.2.mode=MultipleChoice@
qu.1.2.question=<p class="noindent">
<math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
<mn>3</mn>
<mo> log</mo>
<mi>x</mi>
<mo>&minus;</mo>
<mn>2</mn>
<mo> log</mo>
<mi>y</mi>
<mo>=</mo>
</math>
</p>@
qu.1.2.choice.1=<p class="noindent">
<math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
<mo>log</mo>
<mfenced separators="" open="(" close=")">
<mrow>
<mstyle displaystyle="true">
<mfrac>
<mrow>
<msup>
<mrow>
<mi>x</mi>
</mrow>
<mrow>
<mn>3</mn>
</mrow>
</msup>
</mrow>
<mrow>
<msup>
<mrow>
<mi>y</mi>
</mrow>
<mrow>
<mn>2</mn>
</mrow>
</msup>
</mrow>
</mfrac>
</mstyle>
</mrow>
</mfenced>
</math>
</p>@
qu.1.2.choice.2=<p class="noindent">
<math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
<mo>log</mo>
<mrow>
<mo stretchy="false">(</mo>
<mrow>
<msup>
<mrow>
<mi>x</mi>
</mrow>
<mrow>
<mn>3</mn>
</mrow>
</msup>
<msup>
<mrow>
<mi>y</mi>
</mrow>
<mrow>
<mn>2</mn>
</mrow>
</msup>
</mrow>
<mo stretchy="false">)</mo>
</mrow>
</math>
</p>@
qu.1.2.choice.3=<p class="noindent">
<math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
<mo>log</mo>
<mrow>
<mo stretchy="false">(</mo>
<mrow>
<mn>3</mn>
<mi>x</mi>
<mo>&minus;</mo>
<mn>2</mn>
<mi>y</mi>
</mrow>
<mo stretchy="false">)</mo>
</mrow>
</math>
</p>@
qu.1.2.choice.4=<p class="noindent">
<math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
<mo>log</mo>
<mrow>
<mo stretchy="false">(</mo>
<mrow>
<msup>
<mrow>
<mi>x</mi>
</mrow>
<mrow>
<mn>3</mn>
</mrow>
</msup>
<mo>&minus;</mo>
<msup>
<mrow>
<mi>y</mi>
</mrow>
</msup>
</mrow>
<mo stretchy="false">)</mo>
</math>

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      <mrow>
        <mn>2</mn>
      </mrow>
    </msup>
  </mrow>
<mo stretchy="false"></mo>
</math>
</p>@
qu.1.2.info=@
qu.1.2.answer=1 @

qu.1.3.mode=NonPermutingMultipleChoice@
qu.1.3.question=<p class="noindent">Consider the function <math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
<mi>f</mi>
<mrow>
  <mo stretchy="false"></mo>
<mrow>
  <mi>x</mi>
</mrow>
<mo stretchy="false"></mo>
</mrow>
<mo>=</mo>
<mn>${c}</mn>
<msup>
  <mrow>
    <mi>x</mi>
  </mrow>
  <mrow>
    <mn>{n}</mn>
  </mrow>
</msup>
</math>.
What happens to <math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
<mi>f</mi>
<mrow>
  <mo stretchy="false"></mo>
<mrow>
  <mi>x</mi>
</mrow>
<mo stretchy="false"></mo>
</mrow>
</math>
as <math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
<mi>x</mi>
<mo>##8594;</mo>
<mo>&minus;</mo>
<mi>##8734;</mi>
</math>?</p>@
qu.1.3.choice.1=<p class="noindent">
<math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
<mi>f</mi>
<mrow>
  <mo stretchy="false"></mo>
<mrow>
  <mi>x</mi>
</mrow>
<mo stretchy="false"></mo>
</mrow>
<mo>##8594;</mo>
<mi>##8734;</mi>
</math>
</p>@
qu.1.3.choice.2=<p class="noindent">
<math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
<mi>f</mi>
<mrow>
  <mo stretchy="false"></mo>
<mrow>
  <mi>x</mi>
</mrow>
<mo stretchy="false"></mo>
</mrow>
<mo>##8594;</mo>
<mo>&minus;</mo>
<mi>##8734;</mi>
</math>
</p>@
qu.1.3.choice.3=<p class="noindent">
<math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
<mi>f</mi>
<mrow>
  <mo stretchy="false"></mo>
<mrow>
  <mi>x</mi>
</mrow>
<mo stretchy="false"></mo>
</mrow>
<mo>##8594;</mo>
<mn>0</mn>
</math>
</p>@
qu.1.3.algorithm= $n=int(2*rint(4)+3);
$c=int(-(rint(6)+2));
@
qu.1.3.info=@
qu.1.3.answer=1 @

qu.1.4.mode=TrueFalse@
qu.1.4.question=<p class="noindent">The equation <math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
<mn>2</mn>
<mi>x</mi>
<mo>&minus;</mo>
<mn>3</mn>
<msup>
  <mrow>
    <mi>y</mi>
  </mrow>
  <mrow>
    <mn>2</mn>
  </mrow>
</msup>
<mo>=</mo>
<mn>4</mn>
</math> defines a function
with an independent variable <math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
<mi>x</mi>
</math>.</p>@
qu.1.4.choice.1=<p class="noindent">True</p>@
qu.1.4.choice.2=<p class="noindent">False</p>@

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qu.1.4.info=@
qu.1.4.answer=2 @

qu.1.5.mode=TrueFalse@
qu.1.5.question=<p class="noindent">The equation <math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
<math>\frac{a}{x} - \frac{b}{y} = c</math>
</math> defines a function
with an independent variable <math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
<math>x</math>.
</math>.</p>@
qu.1.5.choice.1=<p class="noindent">True</p>@
qu.1.5.choice.2=<p class="noindent">False</p>@
qu.1.5.algorithm= $aa=int(rint(11)+2);
$s=rint(2);
$a=int(if($s,$aa,-$aa));
$b=int(rint(11)+2);
$c=int(rint(11)+2);
$t=rint(2);
$c=int(if($t,$cc,-$cc));
@
qu.1.5.info=@
qu.1.5.answer=2 @

qu.1.6.mode=Matching@
qu.1.6.question=<p class="noindent">Match the following polynomials with their factorizations:</p>@
qu.1.6.term.1=<p class="noindent">
<math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
<math>\frac{x^2 - 1}{x + 1}</math>
</math>
</p>@
qu.1.6.term.1.def.1=<p class="noindent">
<math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
<math>x^2 - 1</math>
</math>
</p>@
qu.1.6.term.1.def.2=<p class="noindent">
<math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
<math>x^2 + 1</math>
</math>
</p>@
qu.1.6.term.2=<p class="noindent">
<math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
<math>\frac{x^2 + 2x + 1}{x + 1}</math>
</math>
</p>@
qu.1.6.term.2.def.1=<p class="noindent">
<math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
<math>x^2 + 2x + 1</math>
</math>
</p>@
qu.1.6.term.2.def.2=<p class="noindent">
<math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
<math>x^2 + 1</math>
</math>
</p>@
qu.1.6.term.3=<p class="noindent">
<math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
<math>\frac{x^2 - 2x + 1}{x - 1}</math>
</math>
</p>@

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</msup>
<mo>&minus;</mo>
<mn>2</mn>
<mi>x</mi>
<mo>+</mo>
<mn>1</mn>
</math>
</p>@
qu.1.6.term.3.def.1=<p class="noindent">
<math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
<msup>
<mrow>
<mrow>
<mo stretchy="false">(</mo>
<mrow>
<mi>x</mi>
<mo>&minus;</mo>
<mn>1</mn>
</mrow>
<mo stretchy="false">)</mo>
</mrow>
</mrow>
<mn>2</mn>
</mrow>
</msup>
</math>
</p>@
<mn xmlns="http://www.w3.org/1998/Math/MathML">1</mn>
<mn xmlns="http://www.w3.org/1998/Math/MathML">2</mn>
<mn xmlns="http://www.w3.org/1998/Math/MathML">3</mn>
<mn xmlns="http://www.w3.org/1998/Math/MathML">2</mn>qu.1.6.format.columns=3@
qu.1.6.info=@

qu.1.7.mode=key words@
qu.1.7.question=<p class="noindent">Which two scientists independently discovered inductance?</p>@
qu.1.7.answer=Michael (Faraday) and Joseph (Henry)@
qu.1.7.info=@

qu.1.8.mode=Multipart@
qu.1.8.weighting=1,2@
qu.1.8.question=<p class="noindent">Answer the following questions:</p>@

qu.1.8.part.1.mode=Formula@
qu.1.8.part.1.question=<p class="noindent">Compute the exact value of <math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
<msup>
<mrow>
<mi>f</mi>
</mrow>
<mrow>
<mi>&prime;</mi>
</mrow>
</msup>
<mrow>
<mo stretchy="false">(</mo>
<mrow>
<mn>2</mn>
</mrow>
<mo stretchy="false">)</mo>
</mrow>
</math>
if <math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
<mi>f</mi>
<mrow>
<mo stretchy="false">(</mo>
<mrow>
<mi>x</mi>
</mrow>
<mo stretchy="false">)</mo>
</mrow>
<mo>=</mo>
<msup>
<mrow>
<mi>x</mi>
</mrow>
<mrow>
<mn>3</mn>
</mrow>
</msup>
<mo>+</mo>
<mn>3</mn>
<mo> cos</mo>
<mrow>
<mo stretchy="false">(</mo>
<mrow>
<mi>x</mi>
</mrow>
<mo stretchy="false">)</mo>
</mrow>
<mo>&minus;</mo>
<mn>1</mn>
</math>.</p>@
qu.1.8.part.1.answer=12-3*sin(2)@
qu.1.8.part.1.info=@

qu.1.8.part.2.mode=Multipart@
qu.1.8.part.2.numbering=roman@

qu.1.8.part.2.part.1.mode=Ntuple@
qu.1.8.part.2.part.1.question=<p class="noindent">Find the absolute minimum point on the graph of the function
<math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
<mi>f</mi>
<mrow>
<mo stretchy="false">(</mo>
<mrow>
<mi>x</mi>
</mrow>
<mo stretchy="false">)</mo>
</mrow>
<mo>=</mo>
<mstyle displaystyle="true">
<mfrac>
<mrow>
<mi>x</mi>
</mrow>
<mrow>
<mn>1</mn>
<mo>+</mo>
</mrow>
</mfrac>

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<mrow>
  <mi>x</mi>
</mrow>
<mrow>
  <mn>2</mn>
</mrow>
</msup>
</mrow>
</mfrac>
</mstyle>
</math>.</p>@
qu.1.8.part.2.part.1.answer=(-1,-1/2)@
qu.1.8.part.2.part.1.info=@

qu.1.8.part.2.part.2.mode=Ntuple@
qu.1.8.part.2.part.2.question=<p class="noindent">Find the absolute maximum point on the graph of the function
<math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
  <mi>f</mi>
<mrow>
  <mo stretchy="false">(</mo>
<mrow>
  <mi>x</mi>
</mrow>
<mo stretchy="false">)</mo>
</mrow>
<mo>=</mo>
<mstyle displaystyle="true">
<mfrac>
  <mrow>
    <mi>x</mi>
  </mrow>
<mrow>
  <mn>1</mn>
<mo>+</mo>
<msup>
  <mrow>
    <mi>x</mi>
  </mrow>
<mrow>
  <mn>2</mn>
</mrow>
</msup>
</mrow>
</mfrac>
</mstyle>
</math>.</p>@
qu.1.8.part.2.part.2.answer=(1,1/2)@
qu.1.8.part.2.part.2.info=@
qu.1.8.part.2.info=@
qu.1.8.info=@

qu.1.9.mode=MultiFormula@
qu.1.9.question=<p class="noindent">What are the <math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
  <mi>x</mi>
</math>-intercepts
of the graph shown?
</p>
<applet code="applets.grapher.Graph" width="250" height="250" archive="graphing.jar">
  <param name="y1" value="(x-1)(x+3)"/>
  <param name="gridLines" value="12"/>
  <param name="xMin" value="-6"/>
  <param name="xMax" value="6"/>
  <param name="yMin" value="-6"/>
  <param name="yMax" value="6"/>
</applet>@
qu.1.9.answer=1;-3@
qu.1.9.info=@

qu.1.10.mode=sketch@
qu.1.10.algorithm=$a = int(rand(2,6));
$a2 = int($a*$a);
$xmax = int(2*$a);
$x = sqrt(2)*$a;
@
qu.1.10.question=<p class="noindent">Sketch the graph of the function <math xmlns="http://www.w3.org/1998/Math/MathML" display="inline">
  <mi>y</mi>
<mo>=</mo>
<msup>
  <mrow>
    <mi>x</mi>
  </mrow>
<mrow>
  <mn>2</mn>
</mrow>
</msup>
<mo>#8725;</mo>
<mn>${a2}</mn>
</math>.</p>@
qu.1.10.gridlines=4@
qu.1.10.axes=-${xmax},${xmax},-4,4@
qu.1.10.axes.labeled=true@
qu.1.10.axes.background=@ImageBase @
qu.1.10.example=-${x},2 -${a},1 0,0 ${a},1 ${x},2@
qu.1.10.answer=check(( goes_through($1,0,0) && goes_through($1,-${a},1) && goes_through($1,${a},1) ) && ( slope_at($1,0) == 0 ) && ( decreasing(restrictio
qu.1.10.info=@

qu.1.11.mode=Matrix@
qu.1.11.question=<p class="noindent">Find the transpose of the matrix
</p>
<math xmlns="http://www.w3.org/1998/Math/MathML" display="block">
  <mi>A</mi>
<mo>=</mo>
<mfenced separators="" open="[" close="]">
  <mrow>
    <mtable align="axis" equalrows="false" equalcolumns="false">
      <mtr>
        <td columnalign="center">
          <mn>{a}</mn>
        </td>
        <td columnalign="center">
          <mn>{b}</mn>
        </td>
        <td columnalign="center">
          <mn>{c}</mn>
        </td>
      </mtr>
      <mtr>
        <td columnalign="center">
          <mn>{d}</mn>
        </td>
      </mtr>
    </mtable>
  </mrow>
</mfenced>
</math>

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```
<mtd columnalign="center">
<mn>{e}</mn>
</mtd>
<mtd columnalign="center">
<mn>{f}</mn>
</mtd>
</mtr>
</mtable>
</mrow>
</mfenced>
</math>
<p class="nopar">@
qu.1.11.size=3,2@
qu.1.11.size=3,2@
qu.1.11.answer=${a}, ${d}, ${b}, ${e}, ${c}, ${f}@
qu.1.11.algorithm= $a=int(rint(19)-9);
$b=int(rint(19)-9);
$c=int(rint(19)-9);
$d=int(rint(19)-9);
$e=int(rint(19)-9);
$f=int(rint(19)-9);
@
qu.1.11.info=@
```