$$x_1 x_2 + x_1^2 x_2^2 + x_3,$$
$$x_1 x_3 + x_1^2 x_3^2 + x_2, \tag{1}$$
$$x_1 x_2 x_3.$$

```
\begin{gather}
   x_{1} x_{2} + x_{1}^{2} x_{2}^{2} + x_{3},\notag\\
   x_{1} x_{3} + x_{1}^{2} x_{3}^{2} + x_{2},\label{E:ml9}\\
   x_{1} x_{2} x_{3}. \notag
\end{gather}
```

$$(x_1x_2x_3x_4x_5x_6)^2+$$
$$(x_1x_2x_3x_4x_5 + x_1x_3x_4x_5x_6 + x_1x_2x_4x_5x_6 + x_1x_2x_3x_5x_6)^2+$$
$$(x_1x_2x_3x_4 + x_1x_2x_3x_5 + x_1x_2x_4x_5 + x_1x_3x_4x_5 + x_2x_3x_4x_5)^2 \quad (2)$$

```
\begin{multline}\label{E:ml13}
   (x_{1} x_{2} x_{3} x_{4} x_{5} x_{6})^{2} +\\
   (x_{1} x_{2} x_{3} x_{4} x_{5} + x_{1} x_{3} x_{4}
    x_{5} x_{6} + x_{1} x_{2} x_{4} x_{5} x_{6}
    + x_{1} x_{2} x_{3} x_{5} x_{6})^{2}+\\
   (x_{1} x_{2} x_{3} x_{4} + x_{1} x_{2} x_{3} x_{5} +
    x_{1} x_{2} x_{4} x_{5} + x_{1} x_{3} x_{4} x_{5} +
    x_{2} x_{3} x_{4} x_{5})^{2}
\end{multline}
```

$$x = y + z, \tag{3}$$
$$u = v + w. \tag{4}$$

```
\begin{align} \label{E:ml1}
   x &= y + z,\\
   u &= v + w.\label{E:ml1a}
\end{align}
```

$$h(x) = \int \left(\frac{f(x) + g(x)}{1 + f^2(x)} + \frac{1 + f(x)g(x)}{\sqrt{1 - \sin x}} \right) \, \mathrm{d}x \tag{5}$$
$$= \int \frac{1 + f(x)}{1 + g(x)} \, \mathrm{d}x - 2\tan^{-1}(x - 2)$$

```
\begin{align} \label{E:ml2}
   h(x) &= \int \left( \frac{f(x) + g(x)}{1 + f^{2}(x)}+
            \frac{ 1 + f(x)g(x) }{ \sqrt{1 - \sin x} }
            \right)\,\dx\\
        &= \int \frac{ 1 + f(x) }{ 1 + g(x) }\,\dx
         -2 \tan^{-1}(x - 2) \notag
\end{align}
```

$$x = x \wedge (y \vee z) \qquad \text{(by distributivity)} \qquad (6)$$
$$= (x \wedge y) \vee (x \wedge z) \qquad \text{(by condition (M))}$$
$$= y \vee z.$$

```
\begin{align}
x &= x \ wedge (y \vee z)              & &\text{(by distributiv
  &= (x \wedge y) \vee (x \wedge z)  & &\text{(by condition (
  &= y \vee z. \notag
\end{align}
```

$$
\begin{aligned}
f(x) &= x + yz & g(x) &= x + y + z \\
h(x) &= xy + xz + yz & k(x) &= (x + y)(x + z)(y + z)
\end{aligned}
\tag{7}
$$

```
\begin{align}\label{E:mm3}
   f(x) &= x + yz          & g(x) &= x + y + z\\
   h(x) &= xy + xz + yz  & k(x) &= (x + y)(x + z)(y + z)
    \notag
\end{align}
```

$$f(x) = x + yz \qquad\qquad g(x) = x + y + z \qquad\qquad (8)$$
$$h(x) = xy + xz + yz \qquad\qquad k(x) = (x + y)(x + z)(y + z)$$

```
\begin{flalign}\label{E:mm3fl}
   f(x) &= x + yz        & g(x) &= x + y + z\\
   h(x) &= xy + xz + yz & k(x) &= (x + y)(x + z)(y + z)
    \notag
\end{flalign}
```

$$x = 17y \tag{9}$$
$$y > a + b + c \tag{10}$$

$$x = 17y \tag{11}$$
$$y > a + b + c \tag{12}$$

```
\begin{eqnarray}
   x & = & 17y \\
   y & > & a + b + c
\end{eqnarray}

\begin{align}
   x   & =   17y \\
   y   & >   a + b + c
\end{align}
```

$$x_1 + y_1 + \left(\sum_{i<5} \binom{5}{i} + a^2 \right)^2$$

$$\left(\sum_{i<5} \binom{5}{i} + \alpha^2 \right)^2$$

```
\begin{align}
 x_{1} + y_{1} + \left( \sum_{i < 5} \binom{5}{i}
            &+ a^{2} \right)^{2}\\
  \left( \sum_{i < 5} \binom{5}{i} &+ \alpha^{2} \right)^{2}
\end{align}
```

$$x_1 + y_1 + \left(\sum_{i<5} \binom{5}{i} + a^2 \right)^2$$

$$\left(\sum_{i<5} \binom{5}{i} + \alpha^2 \right)^2$$

$$f(x) = x + yz \qquad\qquad g(x) = x + y + z \qquad\qquad\qquad (13)$$
$$h(x) = xy + xz + yz \qquad k(x) = (x + y)(x + z)(y + z)$$

```
\begin{alignat}{2} \label{E:ml3}
   f(x) &= x + yz         & \qquad g(x) &= x +   y + z\\
   h(x) &= xy + xz + yz & \qquad k(x) &= (x + y)(x + z)
                                  (y + z)\notag
\end{alignat}
```

$$\begin{alignat}{2}
x &= x \wedge (y \vee z) & &\quad\text{, by distributivity,} \tag{14}\\
&= (x \wedge y) \vee (x \wedge z) & &\quad\text{, by Condition (M),}\\
&= y \vee z
\end{alignat}$$

```latex
\begin{alignat}{2} \label{E:ml3a}
   x &= x \wedge (y \vee z) & &\quad\text{, by
                              distributivity,}\\
     &= (x \wedge y) \vee (x \wedge z)
                            & &\quad\text{, by
                                    Condition (M),}
                                        \notag\\
     &= y \vee z \notag
\end{alignat}
```

$$
\begin{aligned}
x &= 3, \\
y &= 4, \\
z &= 5;
\end{aligned}
\qquad \text{or} \qquad
\begin{aligned}
x &= 5, \\
y &= 12, \\
z &= 13.
\end{aligned}
$$

```
\[
   \begin{aligned}
      x &= 3,\\
      y &= 4,\\
      z &= 5;
   \end{aligned}
   \text{\qquad or \qquad}
   \begin{aligned}
      x &= 5,\\
      y &= 12,\\
      z &= 13.
   \end{aligned}
\]
```

$$h(x) = \int \left(\frac{f(x) + g(x)}{1 + f^2(x)} + \frac{1 + f(x)g(x)}{\sqrt{1 - \sin x}} \right) \, \mathrm{d}x$$
$$= \int \frac{1 + f(x)}{1 + g(x)} \, \mathrm{d}x - 2 \tan^{-1}(x - 2) \tag{15}$$

```
\begin{equation}
   \begin{aligned} \label{E:longInt2}
      h(x) &= \int \left( \frac{f(x) + g(x)}{1+ f^{2}(x)} +
      \frac{1+ f(x)g(x) }{\sqrt{1 - \sin x}} \right)\,\dx\\
         &= \int \frac{ 1 + f(x) }{ 1 + g(x) }
                        \,\dx - 2 \tan^{-1} (x-2)
   \end{aligned}
\end{equation}
```

$$
\begin{aligned}
x &= 3, \\
y &= 4, \\
z &= 5;
\end{aligned}
\qquad \text{or} \qquad
\begin{aligned}
x &= 5, \\
y &= 12, \\
z &= 13.
\end{aligned}
$$

```
\[
   \begin{aligned}[b]
      x &= 3,\\
      y &= 4,\\
      z &= 5;
   \end{aligned}
   \text{\qquad or \qquad}
   \begin{aligned}[b]
      x &= 5,\\
      y &= 12,\\
      z &= 13.
   \end{aligned}
\]
```

$$\begin{aligned}
f &= (x_1 x_2 x_3 x_4 x_5 x_6)^2 \\
&= (x_1 x_2 x_3 x_4 x_5 + x_1 x_3 x_4 x_5 x_6 + x_1 x_2 x_4 x_5 x_6 + x_1 x_2 x_3 x_5 x_6)^2 \qquad (16) \\
&= (x_1 x_2 x_3 x_4 + x_1 x_2 x_3 x_5 + x_1 x_2 x_4 x_5 + x_1 x_3 x_4 x_5 + x_2 x_3 x_4 x_5)^2
\end{aligned}$$

```
\begin{equation}  \label{E:ml5}
   \begin{split}
      f &= (x_{1} x_{2} x_{3} x_{4} x_{5} x_{6})^{2}\\
        &= (x_{1} x_{2} x_{3} x_{4} x_{5} +
         x_{1} x_{3} x_{4} x_{5} x_{6} +
         x_{1} x_{2} x_{4} x_{5} x_{6} +
         x_{1} x_{2} x_{3} x_{5} x_{6})^{2}\\
        &= (x_{1} x_{2} x_{3} x_{4} + x_{1} x_{2} x_{3}
           x_{5} + x_{1} x_{2} x_{4} x_{5} + x_{1} x_{3}
           x_{4} x_{5} +  x_{2} x_{3} x_{4} x_{5})^{2}
   \end{split}
\end{equation}
```

$$f = (x_1 x_2 x_3 x_4 x_5 x_6)^2$$
$$= (x_1 x_2 x_3 x_4 x_5 + x_1 x_3 x_4 x_5 x_6 + x_1 x_2 x_4 x_5 x_6 + x_1 x_2 x_3 x_5 x_6)^2 \tag{17}$$
$$= (x_1 x_2 x_3 x_4 + x_1 x_2 x_3 x_5 + x_1 x_2 x_4 x_5 + x_1 x_3 x_4 x_5 + x_2 x_3 x_4 x_5)^2,$$
$$g = y_1 y_2 y_3. \tag{18}$$

```
\begin{align} \label{E:ml6}
   \begin{split}
      f &= (x_{1} x_{2} x_{3} x_{4} x_{5} x_{6})^{2}\\
        &= (x_{1} x_{2} x_{3} x_{4} x_{5} +
           x_{1} x_{3} x_{4} x_{5} x_{6} +
           x_{1} x_{2} x_{4} x_{5} x_{6} +
           x_{1} x_{2} x_{3} x_{5} x_{6})^{2}\\
        &= (x_{1} x_{2} x_{3} x_{4} +
           x_{1} x_{2} x_{3} x_{5} +
           x_{1} x_{2} x_{4} x_{5} +
           x_{1} x_{3} x_{4} x_{5} +
           x_{2} x_{3} x_{4} x_{5})^{2},
   \end{split}\\
      g &= y_{1} y_{2} y_{3}.  \label{E:ml7}
\end{align}
```

$$h(x) = \int \left(\frac{f(x) + g(x)}{1 + f^2(x)} + \frac{1 + f(x)g(x)}{\sqrt{1 - \sin x}} \right) \, \mathrm{d}x \qquad (19)$$

The reader may find the following form easier to read:

$$= \int \frac{1 + f(x)}{1 + g(x)} \, \mathrm{d}x - 2 \tan^{-1}(x - 2)$$

```
\begin{align}  \label{E:ml8}
     h(x) &= \int \left(\frac{f(x) + g(x)}{1 + f^{2}(x)} +
     \frac{1 + f(x)g(x)}{\sqrt{1 - \sin x}}\right)\,\dx\\
  \intertext{The reader may find the following
           form easier to read:}
     &= \int \frac{1 + f(x)}{1 + g(x)}\,\dx  -
     2 \tan^{-1}(x - 2) \notag
\end{align}
```

$$f(x) = x + yz \qquad\qquad g(x) = x + y + z$$

The reader also may find the following polynomials useful:

$$h(x) = xy + xz + yz \qquad k(x) = (x + y)(x + z)(y + z)$$

```
\begin{alignat*}{2}
   f(x) &= x + yz & \qquad g(x) &= x + y + z \\
   \intertext{The reader also may find the following
    polynomials useful:}
   h(x) &= xy + xz + yz
                    & \qquad k(x) &= (x + y)(x + z)(y + z)
\end{alignat*}
```

$$f(x) = \begin{cases} -x^2, & \text{if } x \leq 0; \\ 0 + x, & \text{if } 0 \leq x \leq 1; \\ x^2, & \text{otherwise.} \end{cases} \tag{20}$$

```
\begin{equation} \label{E:ml10}
   f(x) =
       \begin{cases}
          -x^{2}, &\text{if $x \leq 0$;}\\
          0 + x,  &\text{if $ 0 \leq x \leq 1$;}\\
          x^{2},  &\text{otherwise.}
       \end{cases}
\end{equation}
```

$$f = (x_1 x_2 x_3 x_4 x_5 x_6)^2$$
$$= (x_1 x_2 x_3 x_4 x_5 + x_1 x_3 x_4 x_5 x_6 + x_1 x_2 x_4 x_5 x_6 + x_1 x_2 x_3 x_5 x_6)^2$$
$$= (x_1 x_2 x_3 x_4 + x_1 x_2 x_3 x_5 + x_1 x_2 x_4 x_5 + x_1 x_3 x_4 x_5 + x_2 x_3 x_4 x_5)^2$$

$$g = y_1 y_2 y_3 \tag{21}$$
$$h = z_1^2 z_2^2 z_3^2 \tag{22}$$

```
\begin{gather} \label{E:ml11}
   \begin{split}
      f &= (x_{1} x_{2} x_{3} x_{4} x_{5} x_{6})^{2}\\
        &= (x_{1} x_{2} x_{3} x_{4} x_{5}
           + x_{1} x_{3} x_{4} x_{5} x_{6} +
           x_{1} x_{2} x_{4} x_{5} x_{6} +
           x_{1} x_{2} x_{3} x_{5} x_{6})^{2}\\
        &= (x_{1} x_{2} x_{3} x_{4} +
           x_{1} x_{2} x_{3} x_{5} +
           x_{1} x_{2} x_{4} x_{5} +
           x_{1} x_{3} x_{4} x_{5} +
           x_{2} x_{3} x_{4} x_{5})^{2}
   \end{split}\\
   \begin{align*}
      g &= y_{1} y_{2} y_{3}\\
      h &= z_{1}^{2} z_{2}^{2} z_{3}^{2}
   \end{align*}
\end{gather}
```

$$a = b + c, \qquad (23)$$
$$d = e + f, \qquad (24)$$
$$x = y + z, \qquad (25)$$
$$u = v + w.$$

```
{\allowdisplaybreaks
\begin{align} \label{E:ml14}
   \allowdisplaybreaks
   a &= b + c,\\
   d &= e + f,\\
   x &= y + z,\\
   u &= v + w.\notag
\end{align}
}
```