In[53]:= `B[b_, f_, eps_, p_, phi0_] = Simplify[(b^2 f (1 + eps) - p - phi0 b (2 + eps)) / eps]`

Out[53]= $-\frac{-b^2 (1+eps) f + p + b (2+eps) phi0}{eps}$

In[54]:= `D[B[b, f, eps, p, phi0], b]`

Out[54]= $-\frac{-2 b (1+eps) f + (2+eps) phi0}{eps}$

In[55]:= `Simplify[D[B[b, f, eps, p, phi0], b] == (2 b (1 + eps) f - (2 + eps) phi0) / eps]`

Out[55]= True

In[56]:= `D[B[b, f, eps, p, phi0], f]`

Out[56]= $\frac{b^2 (1+eps)}{eps}$

In[57]:= `Simplify[D[B[b, f, eps, p, phi0], f] == b^2 (1 + eps) / eps]`

Out[57]= True

In[58]:= `Simplify[D[B[b, f, eps, p, phi0], eps]]`

Out[58]= $\frac{-b^2 f + p + 2 b\, phi0}{eps^2}$

In[59]:= `Simplify[D[B[b, f, eps, p, phi0], eps] == (p + 2 b phi0 - b^2 f) / eps^2]`

Out[59]= True

In[60]:= `Simplify[D[B[b, f, eps, p, phi0], p]]`

Out[60]= $-\frac{1}{eps}$

In[61]:= `Simplify[D[B[b, f, eps, p, phi0], p] == -1 / eps]`

Out[61]= True

In[62]:= `Simplify[D[B[b, f, eps, p, phi0], phi0]]`

Out[62]= $-\frac{b (2+eps)}{eps}$

In[63]:= `Simplify[D[B[b, f, eps, p, phi0], phi0] == -b (2 + eps) / eps]`

Out[63]= True

In[98]:= `A[B_, b_, phi0_, f_, eps_] = (B / b + phi0 - b f) (1 + eps) / eps`

Out[98]= $\frac{(1+eps) \left(\frac{B}{b} - b f + phi0\right)}{eps}$

In[99]:=
```
Simplify[D[A[Bb[b, f, eps, p, phi0], b, phi0, f, eps], b]]
```

Out[99]=
$$-\frac{(1+\mathrm{eps})\left(\mathrm{Bb}[b,f,\mathrm{eps},p,\mathrm{phi0}]+b\left(b\,f-\mathrm{Bb}^{(1,0,0,0,0)}[b,f,\mathrm{eps},p,\mathrm{phi0}]\right)\right)}{b^2\,\mathrm{eps}}$$

In[101]:=
```
Simplify[D[A[Bb[b, f, eps, p, phi0], b, phi0, f, eps], phi0]]
```

Out[101]=
$$\frac{(1+\mathrm{eps})\left(b+\mathrm{Bb}^{(0,0,0,0,1)}[b,f,\mathrm{eps},p,\mathrm{phi0}]\right)}{b\,\mathrm{eps}}$$

In[116]:=
```
Simplify[D[A[Bb[b, f, eps, p, phi0], b, phi0, f, eps], phi0] ==
  (1 + eps)/eps (b + D[Bb[b, f, eps, p, phi0], phi0])/b]
```

Out[116]= True

In[103]:=
```
Simplify[D[A[Bb[b, f, eps, p, phi0], b, phi0, f, eps], b]]
```

Out[103]=
$$-\frac{(1+\mathrm{eps})\left(\mathrm{Bb}[b,f,\mathrm{eps},p,\mathrm{phi0}]+b\left(b\,f-\mathrm{Bb}^{(1,0,0,0,0)}[b,f,\mathrm{eps},p,\mathrm{phi0}]\right)\right)}{b^2\,\mathrm{eps}}$$

In[115]:=
```
Simplify[D[A[Bb[b, f, eps, p, phi0], b, phi0, f, eps], b] ==
  (1 + eps)/eps (D[Bb[b, f, eps, p, phi0], b]/b - (Bb[b, f, eps, p, phi0]/b^2 + f))]
```

Out[115]= True

In[105]:=
```
Simplify[D[A[Bb[b, f, eps, p, phi0], b, phi0, f, eps], f]]
```

Out[105]=
$$\frac{(1+\mathrm{eps})\left(-b+\frac{\mathrm{Bb}^{(0,1,0,0,0)}[b,f,\mathrm{eps},p,\mathrm{phi0}]}{b}\right)}{\mathrm{eps}}$$

In[117]:=
```
Simplify[D[A[Bb[b, f, eps, p, phi0], b, phi0, f, eps], f] ==
  (1 + eps)/eps (D[Bb[b, f, eps, p, phi0], f] - b^2) / b]
```

Out[117]= True

In[118]:=
```
D[A[Bb[b, f, eps, p, phi0], b, phi0, f, eps], p]
```

Out[118]=
$$\frac{(1+\mathrm{eps})\,\mathrm{Bb}^{(0,0,0,1,0)}[b,f,\mathrm{eps},p,\mathrm{phi0}]}{b\,\mathrm{eps}}$$

In[119]:=
```
Simplify[
 D[A[Bb[b, f, eps, p, phi0], b, phi0, f, eps], p] == 1/b D[Bb[b, f, eps, p, phi0], p] (1 + eps)/eps]
```

Out[119]= True