

Data Analysis 1: Scaling Relations (75 points)

Part 1 (20 points).

1.1 (5.0 pt)

$a =$

$b =$

1.2 (15.0 pt)

$c =$

$d =$

Part 2 (16 points).

2.1 (6.0 pt)

$e =$

2.2 (4.0 pt)

$f =$

2.3 (6.0 pt)

$g =$

Part 3 (15 points).

3.1 (15.0 pt)

Galaxy	Apparent magnitude k	$M_{gas} [M_{\odot}]$	$M_{*} [M_{\odot}]$	$M_{dm} [M_{\odot}]$	$M_{tot} [M_{\odot}]$
G_1	19.2				4.39×10^{11}

Part 4 (24 points).

4.1 (4.0 pt)

$$e \in [\quad , \quad]$$

4.2 (10.0 pt)

$$\sigma_{stat} =$$

4.3 (10.0 pt)

$$g \in [\quad , \quad]$$