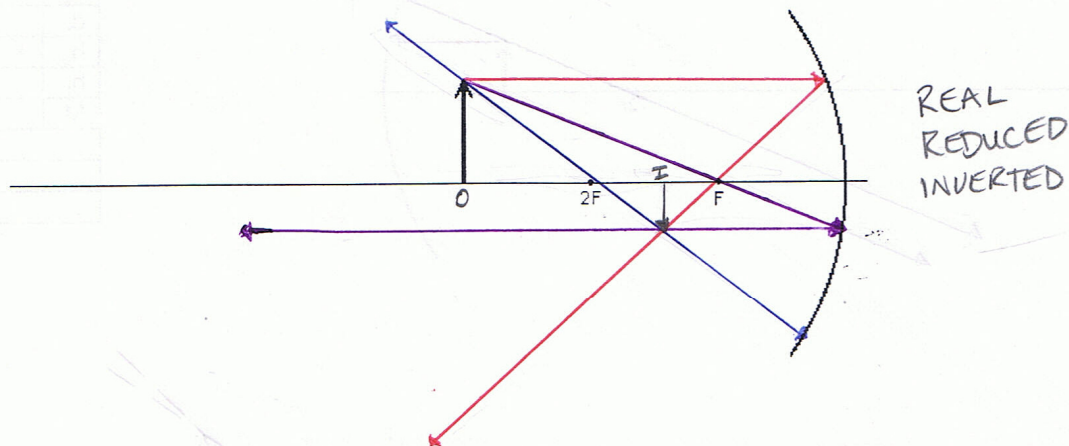


Geometric Optics

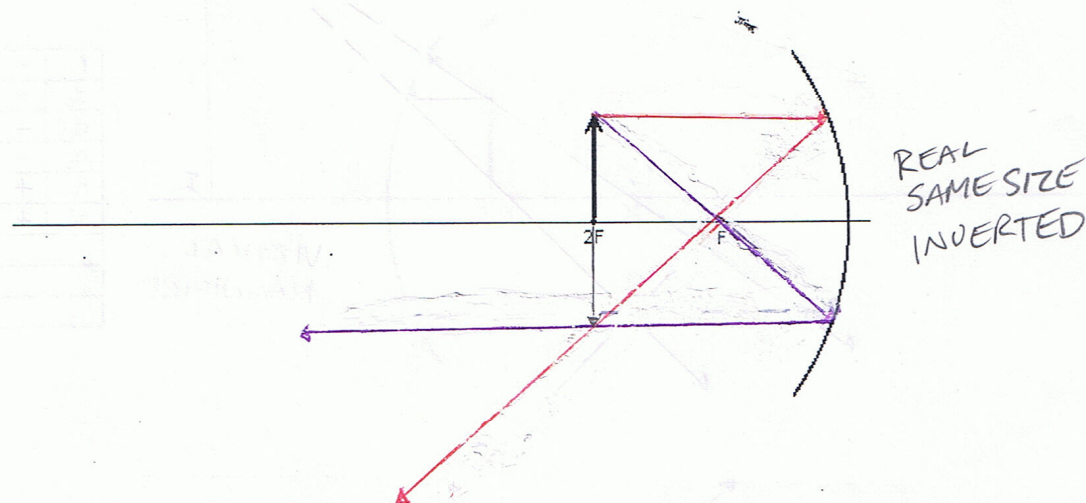
Ray Tracing WS ____

Name KEY

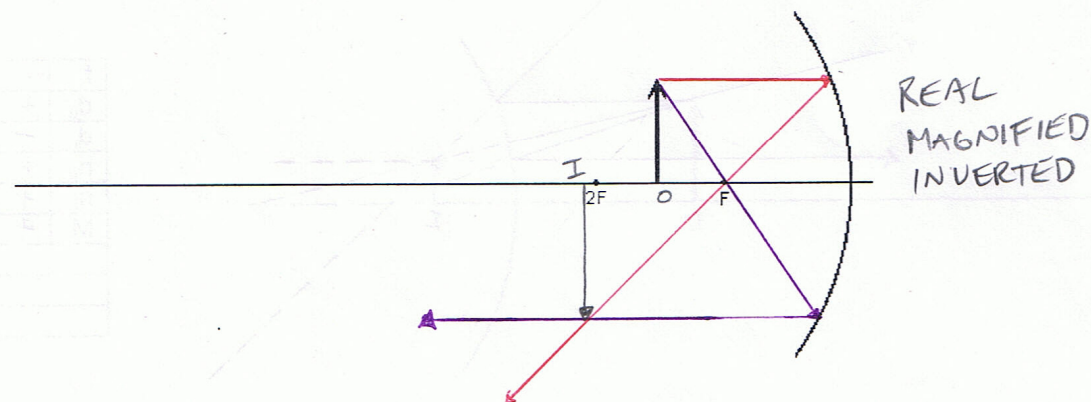
Date _____ Per _____



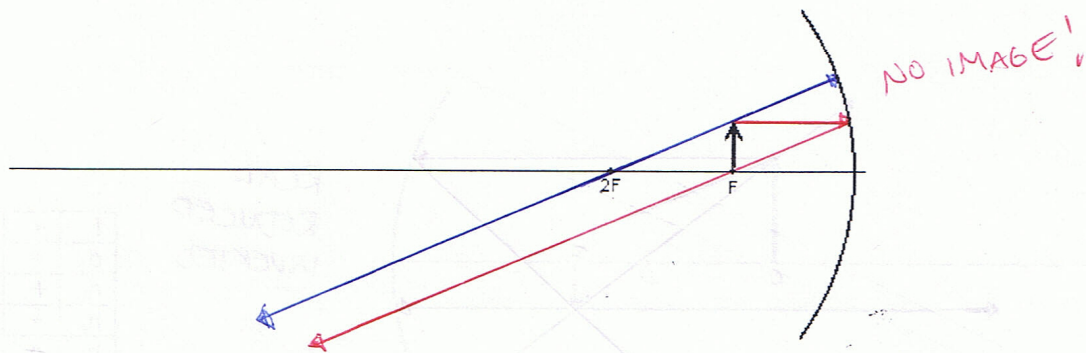
f	+	2
d _o	+	5
d _i	+	3.3
h _o	+	3
h _i	-	2
M	-	$\frac{2}{3} = 0.67$



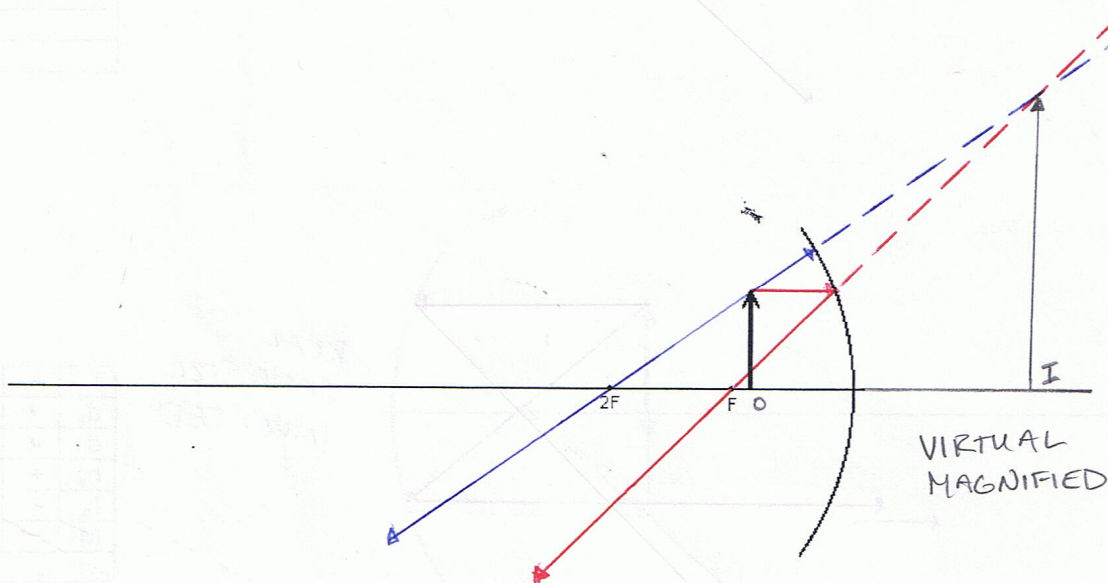
f	+	2
d _o	+	4
d _i	+	4
h _o	+	3
h _i	-	3
M	-	1



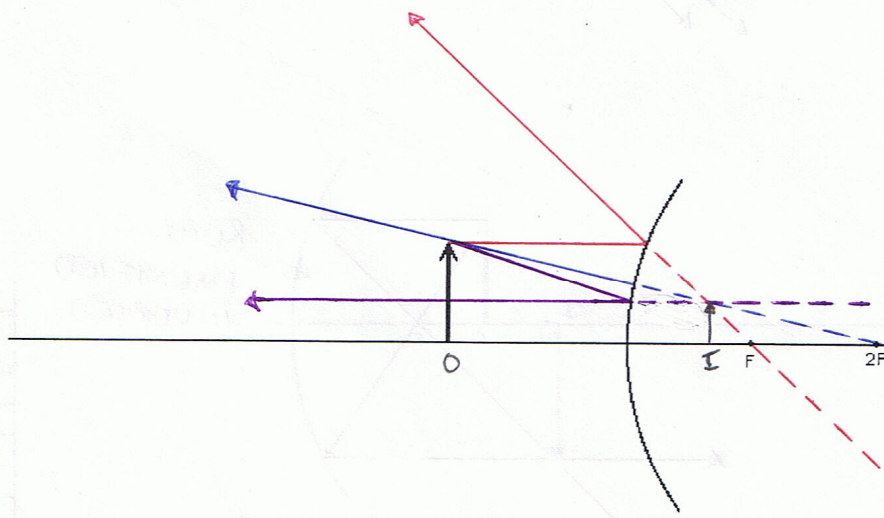
f	+	2
d _o	+	2.5
d _i	+	10
h _o	+	3
h _i	-	12
M	-	4



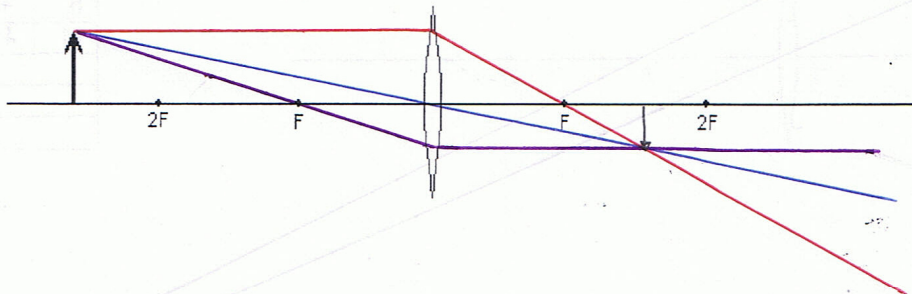
f	+	2
d_o	+	2
d_i		
h_o	+	3
h_i		
M		



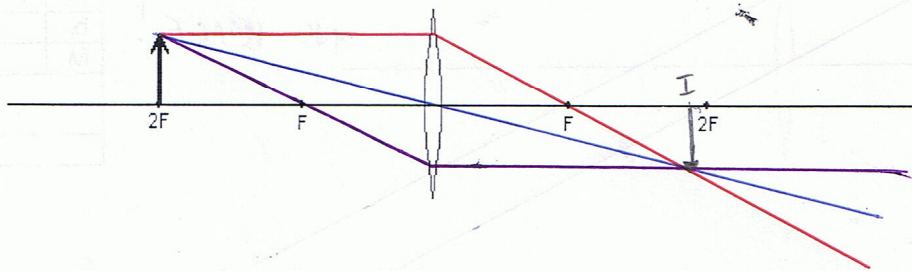
f	+	2
d_o	+	0.8
d_i	-	1.3
h_o	+	3
h_i	+	5
M	+	1.7



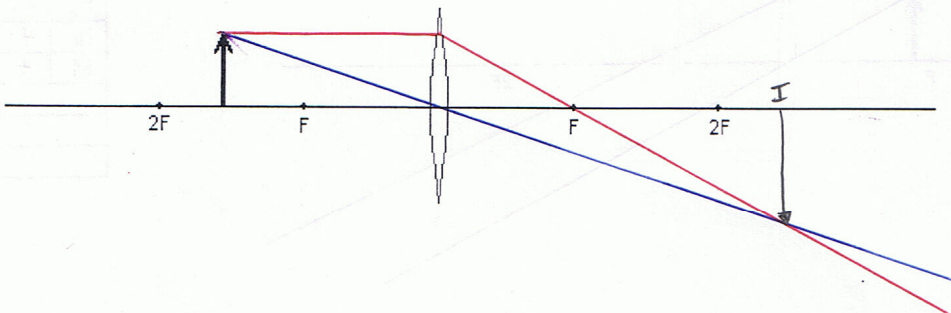
f	-	2
d_o	+	3
d_i	-	1.2
h_o	+	3
h_i	+	1.2
M	+	0.4



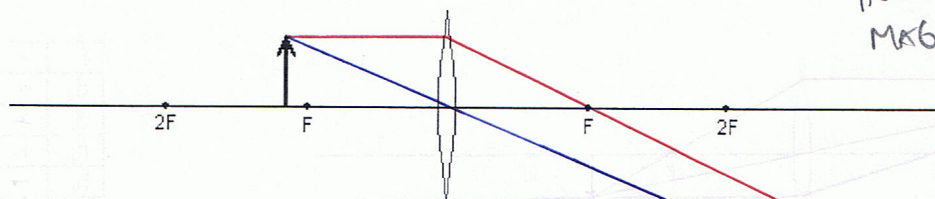
f	+	2
d_o	+	5
d_i	+	3.3
h_o	+	2
h_i	-	1.3
M	-	0.7
Converging		
Real		
Convex		



f	+	2
d_o	+	4
d_i	+	4
h_o	+	2
h_i	-	2
M	-	1

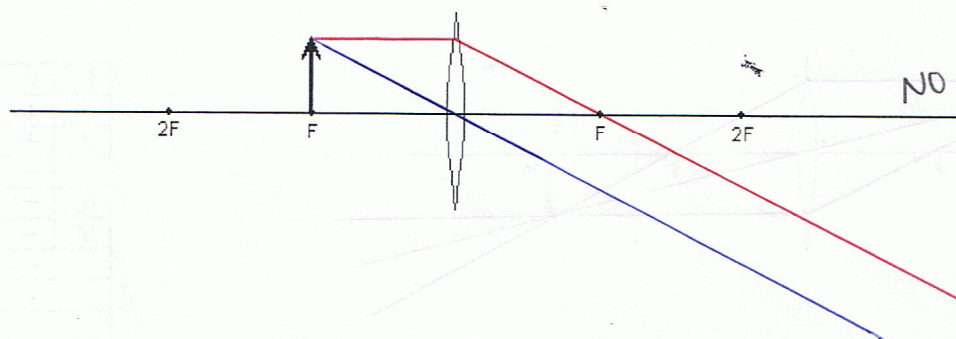


f	+	2
d_o	+	3
d_i	+	6
h_o	+	2
h_i	-	4
M	-	2



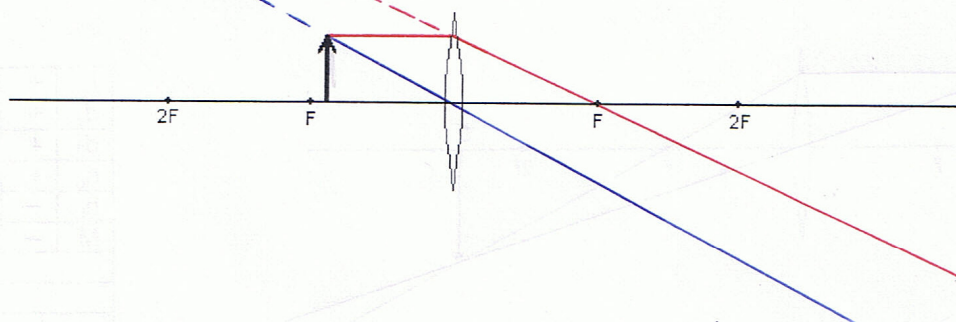
REAL
INVERTED
MAGNIFIED

f	+	2
d _o	+	1.2
d _i	-	3
h _o	+	2
h _i	+	5
M	+	2.5

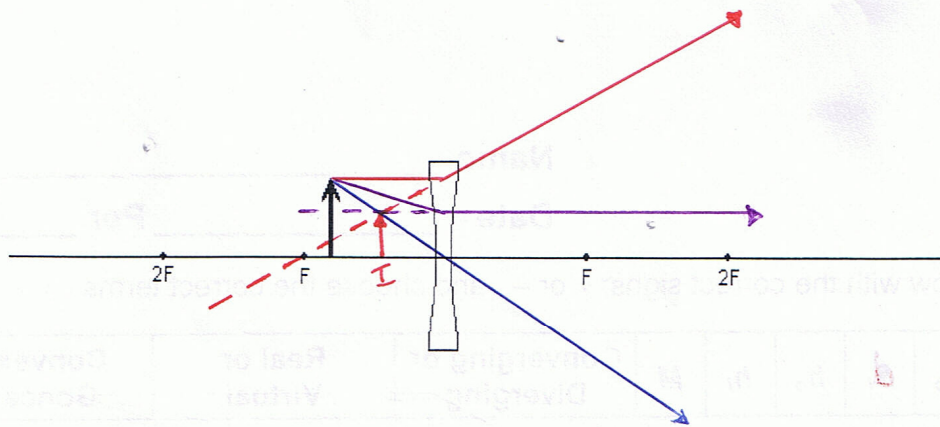


NO IMAGE!

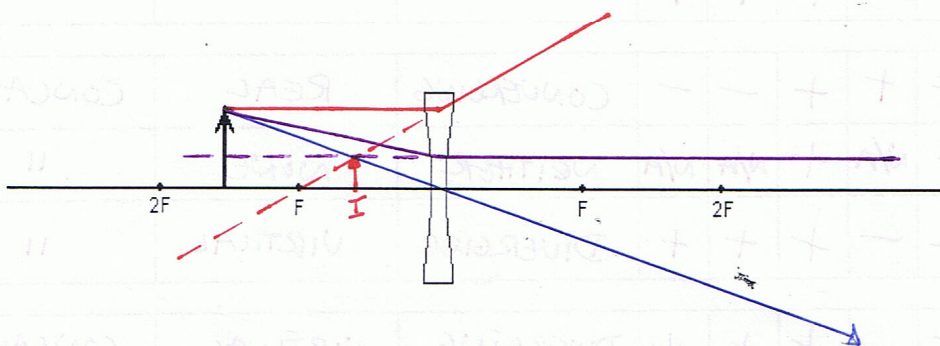
f	+	2
d _o		
d _i		
h _o	+	2
h _i		
M		



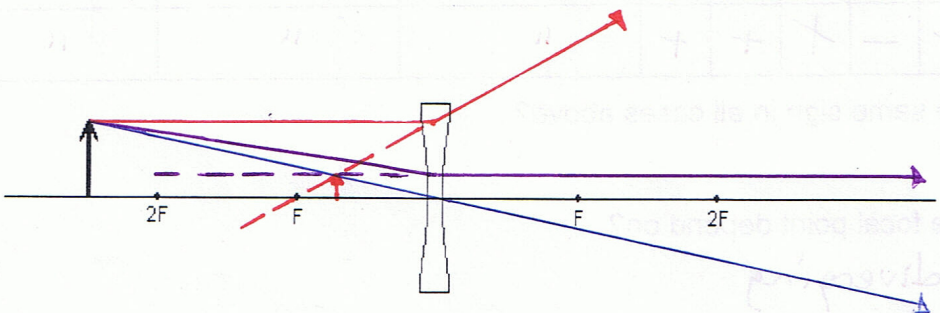
f	+	2
d _o	+	0.8
d _i	-	1.3
h _o	+	2
h _i	+	3.3
M	+	1.7



f	-	2
d _o	+	0.8
d _i	-	0.6
h _o	+	2
h _i	+	1.4
M	+	0.7



f	-	2
d _o	+	3
d _i	-	1.2
h _o	+	2
h _i	+	0.8
M	+	0.4



f	-	2
d _o	+	5
d _i	-	1.4
h _o	+	2
h _i	+	0.6
M	+	0.3

Geometric Optics

Name _____

Ray Tracing WS ____

Date _____ Per _____

1. Complete the tables below with the correct signs, + or - , and choose the correct terms.

	f	d_o	d_i	h_o	h_i	M	Converging or Diverging	Real or Virtual	Convex or Concave
Converging Lens, Object outside f	+	+	+	+	-	-	CONVERGING	REAL	CONVEX
Converging Lens, Object at f	+	+	N/A	+	N/A	N/A	NEITHER	NONE	"
Converging Lens, Object inside f	+	+	-	+	+	+	DIVERGING	VIRTUAL	"
Converging Mirror, Object outside f	+	+	+	+	-	-	CONVERGING	REAL	CONCAVE
Converging Mirror, Object at f	+	+	N/A	+	N/A	N/A	NEITHER	NONE	"
Converging Mirror, Object inside f	+	+	-	+	+	+	DIVERGING	VIRTUAL	"
Diverging Lens, Object outside f	-	+	-	+	+	+	DIVERGING	VIRTUAL	CONCAVE
Diverging Lens, Object inside f	-	+	-	+	+	+	"	"	"
Diverging Mirror, Object outside f	-	+	-	+	+	+	DIVERGING	VIRTUAL	CONVEX
Diverging Mirror, Object inside f	-	+	-	+	+	+	"	"	"

2. Which variables have the same sign in all cases above?

d_o, h_o

3. What does the sign of the focal point depend on?

Converging/diverging

4. When an image is real, what else can be said about it? (There are quite a few)

Converging, produces image on screen, actual rays form image

5. When an image is virtual, what else can be said about it? (There are quite a few)

Diverging, no image on screen, no actual light

6. What are the main differences between converging and diverging?

Real/Virtual images

Rays come together/spread apart

7. What are the differences between lenses and mirrors?

Light transmitted through lenses i. reflected off mirrors