

HORSE STATS FOR ARTISTS

Mathematical Conformation: In Search of the "Perfect" Horse

Measurements obtained from photographs, and paintings/drawings where noted with an asterisk (*).

1 Unit = 1/16TH of an inch. Ratios of specific anatomical measurements determined as a percentage of length of head (=1, or 100%).

	UNITS		UNITS		UNITS		UNITS		UNITS		UNITS		UNITS	
ANATOMY	Horse *1	RATIO	Horse 2	RATIO	Horse *3	RATIO	Horse 4	RATIO	Horse 5	RATIO	Horse 6	RATIO	Horse 7	RATIO
(1) Head	38	1	29	1	24	1	14	1	20	1	24	1	18	1
(2) Shoulder Blade	38	1	30	1.03	29	1.21	14	1	21	1.05	26	1.08	20	1.11
(3) Ischium to Stifle	36	0.95	26	0.9	26	0.08	12	0.86	17	0.85	19	0.79	14	0.78
(4) Point of Hip to Ischium	39	1.03	30	1.03	25	1.04	13	0.93	19	0.95	22	0.92	16	0.89
(5) Elbow to Stifle	49	1.29	32	1.1	35	1.46	18	1.29	22	1.1	27	1.13	23	1.28
(6) Point of Shoulder to Hip	33	0.87	28	0.97	27	1.13	14	1	16	0.8	20	0.83	16	0.89
(7) Transverse Neck	51	1.34	32	1.1	32	1.34	15	1.07	23	1.15	30	1.25	20	1.11
(8) Chest to Tricep Ridge	25	0.66	17	0.59	17	0.71	8	0.57	12	0.6	16	0.67	11	0.61
(9) Fore Cannon	18	0.47	13	0.45	11	0.46	6	0.43	8	0.4	11	0.46	8	0.44
(10) Rear Cannon	26	0.68	20	0.69	18	0.75	10	0.71	14	0.7	16	0.67	12/13	0.67
(11) Hamstring/Gaskin	19	0.5	11	0.38	12	0.5	6	0.43	9	0.45	10	0.42	8	0.44
(12) Forearm, knee to brisket	20	0.53	16	0.55	16	0.58	8	0.57	11	0.55	14	0.58	10	0.56
(13) Pastern, front	5	0.13	3	0.1	3	0.13	2	0.14	2	0.1	2	0.08	2	0.11

SUMMARY of Anatomical Comparisons

COMPARISON	Details	Horse *1	Horse 2	Horse *3	Horse 4	Horse 5	Horse 6	Horse 7
(1) divided by (2)	head as percentage of shoulder blade	100.00%	97.00%	83.00%	100.00%	95.00%	92.00%	90.00%
(2) divided by (4)	length of shoulder blade as percentage of point of hip to ischium	97.00%	100.00%	114.00%	107.00%	110.00%	115.00%	120.00%
(3) divided by (4)	ischium to stifle as percentage of point of hip to ischium	92.00%	87.00%	104.00%	92.00%	89.00%	86.00%	88%
(5) divided by (7)	elbow to stifle as percentage of transverse neck	96.00%	100.00%	109.00%	117.00%	96.00%	90.00%	113%
(9) divided by (11)	fore cannon as percentage of hamstring/gaskin length	95.00%	116.00%	92.00%	100.00%	89.00%	109.00%	100%

* Measurements from drawings and paintings

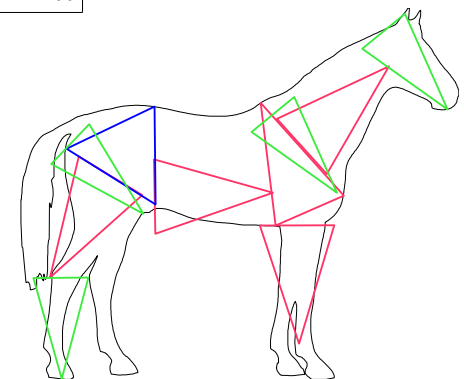
ANATOMY	UNITS		UNITS		UNITS		UNITS		UNITS		UNITS		UNITS	
	Horse 8	Ratio	Horse 9	Ratio	Horse 10	Ratio	Horse *11	Ratio	Horse 12	Ratio	Horse 13	Ratio	Horse 14	Ratio
(1) Head	24	1	25	1	16	1	32	1	32	1	19	1	33	1
(2) Shoulder Blade	25	1.04	25	1	16	1	34	1.06	34	1.06	19	1	36	1.09
(3) Ischium to Stifle	23	0.96	20	0.8	13	0.81	29	0.91	26	0.81	15	0.79	30	.909
(4) Point of Hip to Ischium	25	1.04	21	0.84	15	0.94	28	0.88	27	0.84	17	0.9	32	.97
(5) Elbow to Stifle	23	0.96	30	1.2	20	1.25	43	1.34	36	1.13	23	1.21	44	1.33
(6) Point of Shoulder to Hip	24	1	24	0.96	15	0.94	36	1.13	27	0.84	19	1	32	.97
(7) Transverse Neck	31	1.29	31	1.24	19	1.19	48	1.5	42	1.31	27	1.42	42	.97
(8) Chest to Tricep Ridge	15	0.63	16	0.64	10	0.63	20	0.63	19	0.59	14	0.74	21	.636
(9) Fore Cannon	12	0.5	12	0.48	8	0.5	15	0.47	14	0.43	10	0.53	17	.515
(10) Rear Cannon	21	0.88	18	0.72	12	0.75	23	0.84	21	0.66	16	0.84	30	.909
(11) Hamstring/Gaskin	12	0.5	10	0.4	7	0.44	16	0.5	14	0.44	11	0.58	16	.485
(12) Forearm, knee to brisket	14	0.58	13	0.52	8	0.5	18	0.56	15	0.47	12	0.63	20	.606
(13) Pastern, front	4	0.17	3	0.12	2	0.13	3	0.09	2	0.06	2	0.11	6	0.18

SUMMARY of Anatomical Comparisons

COMPARISON	Details	Horse 8	Horse 9	Horse 10	Horse *11	Horse 12	Horse 13	Horse 14
(1) divided by (2)	head as percentage of shoulder blade	96.00%	100.00%	100.00%	94.00%	94.00%	100.00%	92.00%
(2) divided by (4)	length of shoulder blade as percentage of point of hip to ischium	100.00%	119.00%	106.00%	121.00%	126.00%	112.00%	113.00%
(3) divided by (4)	ischium to stifle as percentage of point of hip to ischium	91.00%	95.00%	87.00%	104.00%	96.00%	88.00%	94%
(5) divided by (7)	elbow to stifle as percentage of transverse neck	74.00%	96.00%	105.00%	90.00%	86.00%	85.00%	105%
(9) divided by (11)	fore cannon as percentage of hamstring/gaskin length	100.00%	120.00%	114.00%	94.00%	100.00%	91.00%	106

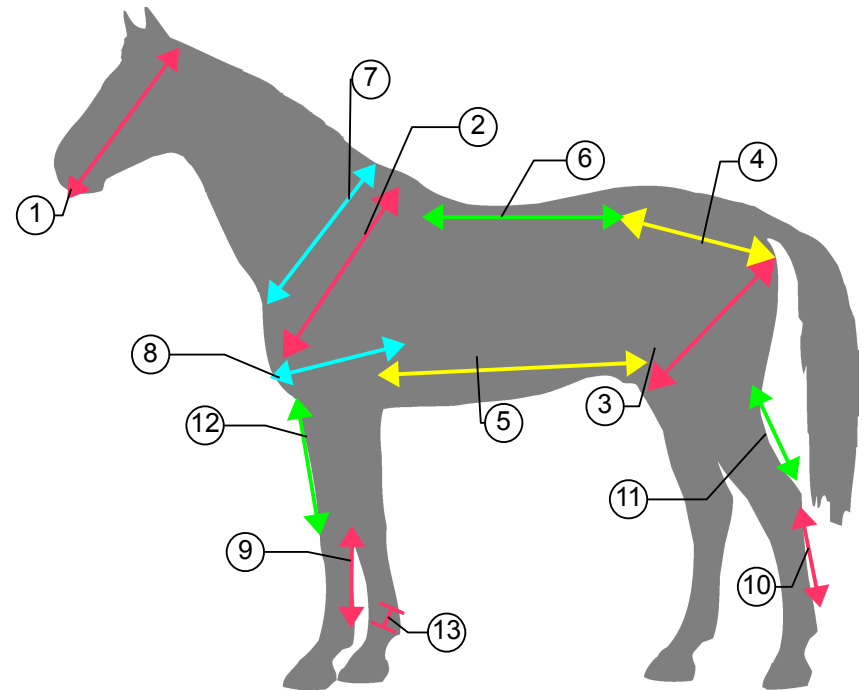
* Measurements from drawings and paintings

triangles of same colors are approximate same measurement



STATISTICAL ANALYSIS for 11 Subjects (expressed as percentage of head measurement)—no drawings/paintings

ANATOMY	AVERAGE	LOW RANGE	HIGH RANGE	MEAN
(1) Head	100.00%	100.00%	100.00%	100.00%
(2) Shoulder Blade	104.26%	100.00%	111.00%	105.5%
(3) Ischium to Stifle	84.13%	77.80%	95.80%	86.8%
(4) Point of Hip to Ischium	93.16%	84.00%	104.20%	94.1%
(5) Elbow to Stifle	117.90%	95.80%	133.30%	114.55%
(6) Point of Shoulder to Hip	92.72%	80.00%	100.00%	90%
(7) Transverse Neck	107.89%	97.00%	142.10%	119.55%
(8) Chest to Tricep Ridge	62.65%	57.10%	73.70%	65.4%
(9) Fore Cannon	42.77%	40.00%	52.60%	46.3%
(10) Rear Cannon	74.45%	65.60%	90.90%	78.25%
(11) Hamstring/Gaskin	45.08%	37.90%	57.90%	47.9%
(12) Forearm, knee to brisket	55.65%	46.90%	63.20%	55.05%
(13) Pastern, front	10.74%	6.30%	18.10%	12.2%



Anatomical Comparisons

CRITERIA	DETAILS	AVERAGE	LOW RANGE	HIGH RANGE	MEAN
(1) divided by (2)	head as percentage of shoulder blade	96.00%	90.00%	100.00%	95.00%
(2) divided by (4)	length of shoulder blade as percentage of point of hip to ischium	112.00%	100.00%	126.00%	113.00%
(3) divided by (4)	ischium to stifle as percentage of point of hip to ischium	90.00%	86.00%	96.00%	91.00%
(5) divided by (7)	elbow to stifle as percentage of transverse neck	97.00%	74.00%	117.00%	95.50%
(9) divided by (11)	fore cannon as percentage of hamstring/gaskin length	104.00%	89.00%	120.00%	104.50%

Commonly Used Measurement Criteria

- ↔ • Head length approximately equals: hock to ground, hock to stifle, fore chestnut to ground, stifle to ischium, point of hip to point of shoulder
- ↔ • Ischium to point of hip approximately equals: ischium to stifle, stifle to point of hip.
- ↔ • Point of shoulder to elbow approximately equals: elbow to top of fetlock.
- Ischium to hock must follow path of a straight vertical line.
- ↔ • Ischium to point of shoulder approximately equals 2½ times length of head.

