

Solutions to the ‘Try these’ examples on each worksheet

Translation key for all problems on all five worksheets:

a: Aristotle; b: Berkeley; c: *The Critique of Pure Reason*; d: Descartes; e: *The Ethics*; f: Frege;

g: Heidegger; h: Hume; i: Leibniz; k: Kant; l: Locke; n: Nietzsche; p: Plato; q: *The Inquiry Concerning Human Understanding*; r: Arendt; s: Spinoza; t: Socrates

Bx: x is a book; Cx: x is a coherentist; Ex: x is an empiricist; Ix: x is an idealist; Mx: x is a materialist; Px: x is a philosopher; Rx: x is a rationalist

Bxy: x is bigger than y; Dxy: x is more difficult to read than y; Lxy: x likes y; Mxy: x is read more widely than y; Oxy: x is more original than y; Pxy: x plays billiards with y; Rxy: x respects y; Sxy: x studies y; Wxy: x wrote y

Lxyz: x likes y better than z

Only

$$6. Pn \cdot Mnd \cdot (\forall x)[(Px \cdot Mxd) \supset x=n]$$

$$7. Ek \cdot Rk \cdot (\forall x)[(Ex \cdot Rx) \supset x=k]$$

$$8. El \cdot Pl \cdot (\exists x)(Rx \cdot Px \cdot Rxl) \cdot Eb \cdot Pb \cdot (\exists x)(Rx \cdot Px \cdot Rxb) \cdot (\forall x)\{[Ex \cdot Px \cdot (\exists y)(Ry \cdot Py \cdot Ryx)] \supset (x=l \vee x=b)\}$$

Except

$$6. Pi \cdot \sim Mi \cdot Pb \cdot \sim Mb \cdot (\forall x)[(Px \cdot x \neq i \cdot x \neq b) \supset Mx]$$

$$7. Pr \cdot Rrg \cdot (\forall x)[(Px \cdot x \neq r) \supset \sim Rrg]$$

$$8. (\exists x)\{Bx \cdot \sim Snx \cdot (\forall y)[(Py \cdot y \neq n) \supset Syx]\}$$

Superlatives

$$6. Ps \cdot (\forall x)[(Px \cdot x \neq s) \supset Osx]$$

$$7. Bc \cdot Wkc \cdot (\forall x)[(Bx \cdot Wkx \cdot x \neq c) \supset Mcx]$$

$$8. (\exists x)\{Bx \cdot (\exists y)(Ey \cdot Wyx) \cdot (\forall z)\{[(Bz \cdot (\exists w)(Ew \cdot Wwz) \cdot z \neq x) \supset Bxz]\}\}$$

At least

$$6. (\exists x)(\exists y)(Px \cdot Py \cdot Mxf \cdot Myf \cdot x \neq y)$$

$$7. (\exists x)(\exists y)(\exists z)(Px \cdot Py \cdot Pz \cdot Mxf \cdot Myf \cdot Mzf \cdot x \neq y \cdot x \neq z \cdot y \neq z)$$

$$8. (\exists x)(\exists y)(\exists z)(\exists w)(Ix \cdot Iy \cdot Iz \cdot Iw \cdot Sxc \cdot Syc \cdot Szc \cdot Swc \cdot x \neq y \cdot x \neq z \cdot x \neq w \cdot y \neq z \cdot y \neq w \cdot z \neq w)$$

At most

$$6. (\forall x)(\forall y)[(Px \cdot Ex \cdot Rx \cdot Py \cdot Ey \cdot Ry) \supset x=y]$$

$$7. (\forall x)(\forall y)(\forall z)[(Px \cdot Rbx \cdot Py \cdot Rby \cdot Pz \cdot Rbz) \supset (x=y \vee x=z \vee y=z)]$$

$$8. (\exists x)(Ex \cdot Lxd) \cdot (\forall x)(\forall y)(\forall z)[(Ex \cdot Lxd \cdot Ey \cdot Lyd \cdot Ez \cdot Lzd) \supset (x=y \vee x=z \vee y=z)]$$